

1923.

Notice.

for any
at having
e Branch
retary of
on, W.C.

Societies
ty's Dis-

no
nsary
Medical
ydney
Societies

Societies
ty
y

series
on Pro-

ty Insti-

at Ren-
in South

ments in

llington,

Meeting.

ommittee.
mination

il.

ve and
South

tion of
lon.
Clinical

cannot
es for-
a Memo-
stated.
ditor,"
30-34,

not re-
mem-
in the
apply-
sellers.
er and
stralia

Medical Lib.
DEC 26 1923

Registered at the G.P.O., Sydney, for Transmission by Post as a Newspaper.

Published Weekly.

Price 1s.

THE MEDICAL JOURNAL OF AUSTRALIA

VOL. II.—10TH YEAR.

SYDNEY: SATURDAY, NOVEMBER 10, 1923.

No. 19.

Surgical Instruments

We are pleased to announce that good general stocks of our Surgical Instruments have arrived and that regular supplies are now coming forward. Members of the Profession are cordially invited to visit our Show Rooms.

Allen & Hanburys (Australasia) Ltd.

Instrument Makers to H.M. Army and H.M. Navy

AUSTRALASIAN BRANCH:

B.M.A. BUILDING : Elizabeth Street, Sydney



Commonwealth Bank of Australia.

Branches are open for the transaction of

General Banking Business

In the principal cities and towns of Australia and
at New Guinea (2) and London (2).

Agents and Correspondents throughout the World.

Savings Bank Department

At all Branches and Savings Bank Agencies at 3,200
Post Offices in Australia, Territories of Papua and
New Guinea, Solomon Islands Protectorate and the
Pacific.

Acting Governor: James Kell.

For Gout and
Rheumatism ..

VICHY MINERAL WATER

Owned and Bottled under
the control of the French
Government

Sole Australian Agents:

MAURICE PELLETIER, 16 Bridge St., Sydney

"Bengerising"

is the term used when treating
Cow's Milk with **BENGER'S
FOOD.**

Milk, when "Bengerised," no longer yields the tough resistant curd in contact with the acid of the gastric fluid, but separates into a soluble and flocculent condition, which is easily tolerated and assimilated, whilst the milk itself is enriched and fortified by the carbo-hydrates of the food in the form of soluble sugars, dextrine and maltose.

N.B.—Complete pre-digestion never takes place.



*Prescribed by the Medical Pro-
fession for Over Forty Years.*

BENGER'S FOOD LTD., 117 Pitt St., Sydney
Otter Works, Manchester, England.

The "Multi" Acousticon

For the VERY DEAF

Most powerful hearing device ever constructed.

Four distinct electrical ears, working in unison, give articulation and strength.

For individual use in the home, office, at church, in court or theatre, or wherever great power is desired.

In Handsome Black
Leather Covered Case.
7 x 7 x 3 1/2 in.



Lamson Store Service **Co. Ltd.** **SOLE AGENTS FOR AUSTRALASIA**

Sydney: Dakin House Melbourne: 475, Collins St.
Brisbane: 113, Eagle St. Adelaide: Hindmarsh Bldgs.
W.A.: H. C. LITTLE & CO., 851, Hay Street, Perth
N.Z.: J. R. PROCTOR, 200, High Street, Christchurch

THE MEDICAL JOURNAL OF AUSTRALIA

VOL. II.—10TH YEAR.

SYDNEY: SATURDAY, NOVEMBER 10, 1923.

No. 19.

Table of Contents

ORIGINAL ARTICLES—

- "Modern Views of Asthma, Hay Fever and Allied Disorders such as Urticaria, Anglo-Neurotic Œdema and Serum Sickness," by L. A. IVAN MAXWELL, M.D., M.Sc. 483

REPORTS OF CASES—

- "Meningitis Following Influenza," by F. J. A. GRANT, M.B., B.S. 491
- "Aneurysm of the Left Subclavian Artery; Ligature of the Left Subclavian Artery in the First Part," by JOHN CORBIN, M.B., B.S. . . 492
- "Osteo-Myelitis of the Frontal Bone, Secondary to Acute Infection of Both Frontal Sinuses," by CHARLES F. WARREN, M.R.C.S., L.R.C.P. . . 493
- "An Unusual Incident Following Tonsillotomy," by ALFRED AUSTIN LONDON, M.D. 493

REVIEWS—

- Abdominal Pain 494

LEADING ARTICLES—

- The Congress. 495

CURRENT COMMENT—

- Osteogenetic Dural Endothelioma 496
- The Lævulose Tolerance Test 497

ABSTRACTS FROM CURRENT MEDICAL LITERATURE—

- Surgery 498

BRITISH MEDICAL ASSOCIATION NEWS—

- Scientific 500
- Medico-Political 502
- Nominations and Elections 502

MEDICO-LEGAL—

- Thompson *versus* The Australasian Medical Publishing Company, Limited, and Others . . . 503

CONGRESS NOTES—

- Australasian Medical Congress (British Medical Association) 506

MEDICAL APPOINTMENTS 506

MEDICAL APPOINTMENTS: IMPORTANT NOTICE 506

DIARY FOR THE MONTH 506

EDITORIAL NOTICES 506

MODERN VIEWS OF ASTHMA, HAY FEVER AND ALLIED DISORDERS SUCH AS URTICARIA, ANGIO-NEUROTIC ŒDEMA AND SERUM SICKNESS.¹

By L. A. IVAN MAXWELL, M.D., M.Sc. (Melbourne),
Senior Lecturer in Physiology, University
of Melbourne.

THE central theme of this paper is an interpretation in terms of anaphylaxis of the clinical manifestations of asthma, hay fever, urticaria, angio-neurotic Œdema and serum sickness.

THE NATURE OF ANAPHYLAXIS.

In the present state of our knowledge such an interpretation does not enable us to diagnose with certainty in all cases the cause of the pathological condition in this large group of disorders. However, it may with fairness be maintained that anaphylaxis or protein hypersensitiveness is the underlying causative factor in the majority of such conditions and such a view affords us a rational line of treatment which other theories have failed to give. A brief study of the experimental basis and some of the fundamental phenomena of ana-

phylaxis will serve to link the laboratory investigations with the clinical aspect of this condition. In 1902 Charles Richet of the Pasteur Institute was attempting to render a dog immune to the poison found in the tentacles of the sea anemone. A preliminary injection was given to the animal and then Richet waited twenty-two days and gave a second injection expecting a certain amount of immunity to have developed as a result of the preliminary treatment, but to his surprise the dog after a few moments became violently ill and died. The first injection had not proved prophylactic, but had the reverse effect of sensitizing the animal to the poison. Hence Richet named the phenomenon anaphylaxis.

Since 1902 a vast amount of experimental work on this subject has been performed by workers who have used for the purpose rabbits, dogs and guinea pigs. The anaphylactic symptoms exhibited by these animals differ considerably. In the rabbit constriction of the pulmonary arteries occurs and induces failure of the right side of the heart, in the dog there is much engorgement of the liver, while in the guinea pig intense constriction of the bronchial tubes occurs.

For our present purpose the features shown by the guinea pig alone will be considered. If this

¹Read at a meeting of the Victorian Branch of the British Medical Association on September 5, 1923.

animal be given a suitable injection of unaltered or only slightly hydrolyzed protein, *exempli gratia* horse serum, at intervals of three or four days, it can soon be demonstrated that an antibody appears in the guinea pig's blood in response to these injections of antigen.

The antibody takes the form of a precipitin, so that if the animal's serum and that of the horse are now mixed in a test tube, a precipitate will occur.

The guinea pig then has developed an immunity to the horse serum.

Contrast this immunity with the condition which develops following a suitable single injection of horse serum. In this case the presence of an antibody (precipitin) can presently be demonstrated in the guinea pig's blood, but Weil has shown that this antibody gradually leaves the blood, until in about ten days it has almost entirely disappeared and has become fixed in the tissue cells. If now a second injection of horse serum is given it is immediately followed by definite anaphylactic symptoms the chief of which is intense dyspnoea due to contraction of the bronchial tubes. This may cause asphyxia and death. Apparently the development of the anaphylactic state is dependent on an almost complete disappearance of the antibody from the blood and its fixation in the tissues. That it has become fixed in the tissue cells has been demonstrated mainly by the work of Dale.

This observer sensitized a virgin guinea pig by a preliminary injection of horse serum and after a suitable interval the animal was killed, the uterus excised and perfused thoroughly with saline solution so as to remove all traces of blood. It was then suspended in oxygenated Ringer's solution. On the addition of some of the horse serum to the Ringer's solution a contraction occurred almost immediately. This contraction is due to the meeting of antigen (horse serum) and antibody in the tissues with the production of what Dale believes to be a precipitin reaction in the tissue cells.

Dale further showed that, if sufficient antigen was added to the Ringer's solution, the contraction of the uterine muscle was accompanied by complete desensitization, so that the addition of further quantities of the horse serum did not cause any further contraction. If on the other hand a very small amount of the horse serum was added to the solution, only partial desensitization would occur and on subsequent addition of small amounts of the serum further contraction of the uterus would be obtained till finally desensitization was complete.

This we may call desensitization in stages and is the basis of treatment for sensitized patients.

Dale and Kellaway prepared a purified precipitin for egg albumin and demonstrated that if it were added to the solution in which a guinea pig's uterus sensitized to egg albumin was suspended, it completely protected this organ from the action of egg albumin added to the solution.

The cellular theory may be briefly summarized by saying that the presence of antibody in the blood renders the animal immune, because any antigen

entering the animal meets the antibody in the blood and so the tissues are protected. Whereas the disappearance of most of the antibody from the blood and its fixation in the tissues renders the animal anaphylactic. In the consideration of the various clinical disorders discussed in this paper this theory will be used as a working basis, but it must be admitted that all authorities do not subscribe to these views.

The chief of the other theories of anaphylaxis is that known as the anaphylatoxin theory in which it is postulated that in response to the injection of foreign proteins a specific enzyme is formed by the animal and this enzyme hydrolyzes this foreign protein if it is injected on a subsequent occasion.

During the process of hydrolysis it is stated that poisons or anaphylatoxins are formed which are responsible for the condition of anaphylaxis. It will be observed that in this theory the substance responsible for the symptoms is produced in the blood and not in the tissues as in the cellular theory.

Vaughan has shown that by the action of alkali on proteins poisonous derivatives can be obtained and it is also known that from the amino acid histidine—a constituent of nearly all protein molecules—the substance histamine can readily be formed and this amine when injected into an animal gives rise to symptoms very similar to those of anaphylactic shock. There are, however, two main difficulties in accepting the anaphylatoxin theory. Firstly, if the antigen and antibody are injected simultaneously into an animal, symptoms of anaphylaxis do not develop as would be expected if the antibody had hydrolyzed the antigen with the formation of an anaphylatoxin. Secondly, the interval between the second injection of antigen and the onset of symptoms is so short that there can scarcely be time for an enzyme to hydrolyze the protein and form a poisonous product.

I have spoken of horse serum being used to sensitize the guinea pig, but it must be remembered that there are three proteins present in the horse serum and it has been shown experimentally that an animal can be sensitized to each of the proteins and desensitized to them individually.

Proteins other than those of horse serum may be used for sensitizing purposes, *exempli gratia* egg albumin, the protein of milk or those in the pollen grains of plant.

It should be mentioned that some authorities do not regard protein-hypersensitiveness in man as an anaphylactic phenomenon and have used the word allergy to indicate such human hypersensitiveness. Time does not permit discussion of the evidence on which this distinction is based, but briefly it is maintained that in allergy there is no antigen-antibody relationship such as exists in anaphylaxis.

Anaphylaxis is usually extraordinarily specific in character; thus an animal sensitized to horse serum would not necessarily be sensitized to cat serum or dog serum. This is readily understood when we consider the varying composition of the different protein molecules. Such specificity does not, however, always occur.

The anaphylactic state can be transferred passively from one sensitized animal to another by transfusion of blood and can be transmitted by a mother to her offspring.

In concluding these remarks on anaphylaxis attention may be drawn to the fact that the symptoms of this condition are accompanied by damage to the capillaries with exudation of lymph into the surrounding tissues, delayed coagulation of the blood and eosinophilia. Extraordinarily minute quantities of antigen will produce symptoms of anaphylaxis in a sensitized animal, one part of albumin in five hundred million parts of saline solution will cause contraction of the uterus in a guinea pig which has been sensitized to egg albumin.

ASTHMA.

Having dealt with the general features of anaphylaxis I shall now consider asthma. At the outset of the study of this subject an attempt must be made to distinguish between true bronchial asthma and asthmatic bronchitis, for the evidence available at present points to the fact that the latter condition, although frequently confused with asthma, is not in any way an anaphylactic phenomenon.

Bronchial Asthma.

In bronchial asthma we may picture a foreign protein acting on a sensitized patient and causing constriction of the bronchial tubes. The muscles of inspiration are able to draw air into the lungs, but those of expiration find more difficulty in expelling it, so that presently the expiration is definitely prolonged and the lungs become distended with residual air. At the height of the attack the patient usually develops a dry cough and later produces a little sputum which is thin, clear, tenacious and contains masses of mucous called *Laennec's perles*. In addition Charcot-Leyden crystals and Curschmann spirals may be found along with eosinophile cells, but none of these are of great diagnostic value.

Physical examination of the lungs indicates their over-distended condition with hyper-resonance on percussion and the development of râles and rhonchi as the attack progresses.

Asthmatic Bronchitis.

In the group of patients suffering from asthmatic bronchitis many have infective conditions of the nose or throat and still more frequently one finds indications of chronic bronchitis. This chronic bronchitis is accompanied by cough, wheezing, some difficulty in breathing and more or less expectoration. The bacterial infection in the bronchi causes the development of bronchitic sputum which may be thick and tenacious. It is raised with moderate ease during the day, but accumulates during sleep and awakens the patient causing considerable dyspnoea in the early hours of the morning.

Accompanying the excessive coughing and bronchial irritation there is probably more or less spasm of the bronchial tubes which may be relieved by anti-spasmodic drugs. This spasm is not anaphylactic in origin as is probable in true asthma. After

the acute attack of dyspnoea has subsided, the patient is usually not quite free from symptoms and dyspnoea may occur on the following night and be maintained intermittently in this way for weeks.

Physical examination of these patients shows evidence of chronic bronchitis with more or less emphysema. The dyspnoea is not so markedly expiratory as in true asthma and accompanying the rhonchi are numerous râles. The vital capacity of the lung is low in these patients between these attacks and this indicates emphysema.

Asthmatic bronchitis usually occurs in middle age or in later life.

It must be clearly understood, however, that patients with true asthma may after repeated attacks develop bacterial infection of the bronchial tubes and finally asthmatic bronchitis. To distinguish between true asthma and asthmatic bronchitis is sometimes very difficult, but the following summary may serve as a guide.

TABLE I.
DISTINGUISHING FEATURES OF ASTHMA AND
ASTHMATIC BRONCHITIS.

Asthma.	Asthmatic Bronchitis.
1. Commences usually in early life.	1. Commences usually in middle or later life.
2. Attacks take place at any time, frequently during the day	2. Attacks usually begin at night.
3. Cutaneous tests frequently yield a reaction.	3. Cutaneous tests yield no reaction.
4. Probably anaphylactic in origin.	4. Infective (bacterial) in origin.
5. Examination of lungs between attacks usually reveals nothing abnormal.	5. Examination of lungs between attacks reveals signs of chronic bronchitis and emphysema.

Theories of Asthma.

Many theories of the causation of asthma have been propounded.

It is now generally considered, that during an acute attack of asthma there is constriction of the bronchial tubes with or without an urticarial condition of the lining mucous membrane.

There are three different schools which seek to explain this constriction of the bronchial tubes and their respective theories will be briefly considered.

The Neurogenic Theory.

According to the neurogenic theory asthma results from either the direct or indirect (reflex) stimulation of the vagus nerves which send impulses to the bronchial musculature and cause it to contract and narrow the lumen of the bronchial tubes.

The sources of the stimuli may be in the nose, throat, gall bladder or any other irritable focus within the body. Such an explanation may be the correct one in a small percentage of cases of asthma.

It has been demonstrated, however, that cutting the vagus nerves and even allowing them to degenerate completely does not affect the bronchial constriction which accompanies anaphylaxis in the guinea pig.

The Digestive and Metabolic Theory.

In the digestive and metabolic theory it is suggested that the proteins as taken into the body do not cause asthma, but that certain derivations of the protein molecule especially amines are responsible for the condition.

It is true that these amines can be readily formed from proteins, *exempli gratia*, histamine can be formed from histidine, an amino-acid present in almost all proteins. Furthermore, histamine when injected into an animal can cause intense constriction of the bronchial tubes and if applied to a skin scratch produces a definite urticarial wheal.

It has been demonstrated that histamine is formed in the intestine in some patients and although it is usually detoxicated in the liver still amines or similar metabolites may be responsible for some cases of asthma.

The Protein Sensitization or Anaphylactic Theory.

The protein sensitization or anaphylactic theory is the theory that receives most support from recent experimental work. Its supporters postulate that the subjects of asthma are sensitized to foreign protein of either animal or vegetable (including bacterial) origin and that the acute attacks are due to the particular protein gaining access to the system either by inhalation, ingestion or absorption from some pathological focus in the body.

It has now been demonstrated in a very large number of asthmatics that some foreign protein is the actual cause of the condition.

The method of recognizing the offending protein is by cutaneous tests, but we are by no means able to determine the nature of the protein in every case of asthma.

The reasons for this will be discussed presently, but before coming to this I shall consider the procedure adopted in cutaneous tests.

Cutaneous Tests.

Two methods of performing cutaneous tests are in common use. In the scratch method a series (ten or twelve) of superficial cuts about 0.3 centimetre long are made on the skin of the forearm. A drop of decinormal sodium hydroxide is applied to the cut and then a little of the protein under investigation. The protein is left in position for thirty minutes and then washed off. A reaction consists in a central wheal surrounded by more or less erythema. Occasionally the reaction is delayed and occurs much later.

The second method is the intradermal test. A solution of the protein under investigation is injected intradermally and the reaction noted as in the scratch test. The intradermal method is the more sensitive one, but it is much more likely to give rise to a general reaction than the scratch test; further, the solutions tend to deteriorate more rapidly than dry powders. Control tests should be

employed for both the scratch and intradermal methods. In the present series the scratch method has been employed almost exclusively.

The proteins of foods, pollens, animal dandruff and bacteria are used for the tests.

The value of reactions to the tests is shown by the success of treatment based on the information thus provided.

Persons whose asthma commences over the age of forty years, rarely give reactions to cutaneous tests.

In the present series of ninety-seven patients with asthma forty-eight, *id est* 49% yielded reactions, whereas of eight hundred patients treated by Sandford 37% gave reactions.

The reasons for failure to obtain a reaction are numerous. These have been detailed in a previous paper. But with the use of greater varieties of proteins, careful attention to their preparation and the testing of patients with due regard to their previous attacks of asthma a higher percentage of positive results should be obtained. So long as patients with atypical asthmatic bronchitis are included in the statistics the percentage of reactions must necessarily be comparatively low. The proteins recommended for routine use are horse dandruff, cat dandruff, pollens of cape weed, dahlia, cosmos, rye grass, cocksfoot, prairie grass, sweet pea, Iceland poppy, rose and such foods as egg albumin, lactalbumin, caseinogen, fish, mutton, beef, pork, wheat flour and other cereals. Bacterial proteins have in my experience usually failed to yield cutaneous reactions and this coincides with the findings of several American workers. Occasionally one sees papers written in which reference is made to cutaneous tests with lactose or fat as performed in anaphylactic patients. Such tests reveal ignorance of the meaning of anaphylaxis.

Occasionally cutaneous reactions are obtained, especially with food proteins, in which it can be demonstrated that taking the food by the mouth does not cause symptoms. The probable explanation of this apparent paradox is that the protein in question has a chemical configuration somewhat similar to those proteins that are responsible for the symptoms. We see a similar condition in the small skin reaction that occurs with *Poa annua* one of the grasses. A patient sensitized to this grass may not have any symptoms of hay fever or asthma till a more potent grass such as rye begins to pollinate. Rye grass pollen protein is probably chemically related to that of *Poa annua*, but usually rye gives a cutaneous reaction of much greater intensity than *Poa annua*.

Causes of Bronchial Asthma.

Turning now to the classification of the causes of bronchial asthma we find that it is largely based on the results of cutaneous tests, as shown in Table II.

The types sensitized to proteins will be briefly discussed.

The Victorian pollens which are provocative of asthma differ markedly from those described as being the causative factors in England and America.

TABLE II.
THE CAUSES OF BRONCHIAL ASTHMA.

Occurring in Patients Sensitized to Proteins.	Occurring in Patients not Sensitized to Proteins.
1. Seasonal— (a) Pollens	1. Neurogenic (?)
2. Non-seasonal— (a) Animal proteins (b) Food proteins (c) Bacterial proteins	2. Digestive and metabolic 3. Bacterial (toxic)

It is true that in Victoria the main botanical orders causing trouble are the *Gramineæ* and *Compositæ* which are also the cause in the two other countries mentioned, but whereas the main grass causing asthma in England and the United States is Timothy grass my observations here tend to place rye grass and cocksfoot as much more potent factors. Again in the United States, rag weed is the commonest of the *Compositæ* causing asthma, whereas in Victoria cape weed is by far the worst offender. The maximum incidence of pollen asthma in Victoria is from September to December, but cases occur in the autumn due to dahlia, cosmos and other autumn flowers. In regard to animal proteins the horse and cat have been the animals to which the patients were sensitized in this series. Other writers describe sensitization to cattle, dogs and sheep. It is important to test this animal group as brilliant results may be obtained through its recognition.

A large variety of foods have by one or other writer been shown to be responsible for asthma. Reactions to cutaneous tests are most frequently obtained with the cereals (wheat, oats, barley, maize), egg albumin, fish and the proteins of milk.

Bacterial proteins in my experience seldom give cutaneous reactions. Sandford reports an entire absence of reaction, but Walker claims 10% of positive results. The inheritance of a tendency to anaphylactic manifestations is common among asthmatics. Asthma, hay fever and urticaria usually figure largely in their antecedents.

Diagnosis of the Cause of Asthma.

In the diagnosis of the cause of asthma the history of the case is frequently of great importance. Seasonal asthma usually indicates pollen irritation; occupation such as that of farmer, groom *et cetera* may suggest animal sensitization or the patient may be able to associate his attacks with the taking of certain foods. A thorough physical examination to detect septic foci is necessary as sepsis in some form is of very frequent occurrence especially in the nose, accessory sinuses and tonsils. X-ray examinations of the sinuses and antra and the cooperation of a nose and throat specialist may be indicated. The alimentary canal, gall bladder and other organs may also be sources of infection. Every effort should be made to differentiate between true asthma and asthmatic bronchitis. The performance of cutaneous tests with representative proteins selected in accordance with the nature of the history of the condition enables one to determine the exact

cause of approximately 50% of all forms of asthma including the typical and atypical. If we exclude the atypical forms the percentage becomes much higher.

Treatment.

Treatment may be considered under several headings.

Prophylaxis.

In cases of food sensitization it is wise if possible to eliminate the particular article from the diet. Walker claims that prolonged abstinence from the offending protein produces automatic desensitization. I have, however, seen a patient in whom sensitization to pineapple still persisted after seven years in which it had not been eaten. Prophylaxis can also be employed in regard to patients sensitized to animal proteins.

The following case illustrates this: Miss A.B., aged ten years, had frequent attacks of asthma for three and a half years which medical treatment had failed to cure. Cutaneous tests revealed sensitization to cat hair and to no other proteins. It was advised that the cat should be removed from the house and the child has not had a single attack of asthma during the six months since this was done.

Specific Desensitization.

The most successful cases are those occurring in patients sensitized to pollens. The pollen injections should be commenced about six or eight weeks before the usual time for the particular pollen to become abundant in the atmosphere. It often happens, however, that the patient does not present himself till the pollen season is well advanced, but even then the injections are usually very effective.

The solutions which I have used are in 1 in 20,000, 1 in 2,000, 1 in 200 and 1 in 20.

Commencing with the weak solution 0.18 cubic centimetre (three minims) are injected subcutaneously and the dose is increased by 0.18 cubic centimetre every fourth day. After three injections of the 1 in 20,000 the 1 in 2,000 solution is given for three injections, then the one in 200 for three injections and finally the 1 in 20 solution is used commencing with 0.06 cubic centimetre (one minim) and increasing the dose by 0.06 cubic centimetre on each occasion.

The amount of the individual injection is subject to either increase or decrease depending upon the local or general reaction of the patient.

Great care must be exercised when using the concentrated solutions as anaphylactic symptoms such as acute dyspnoea with oedema of the face may be readily induced by an overdose. As an indication of the extraordinary degree of sensitization that may occur in some patients, it may be mentioned that local reactions have been obtained when the solution injected contained not more than one part of protein in fifty million parts of saline solution.

After many years of irritation due to pollen patients frequently develop a secondary bacterial infection of the engorged mucous membrane. It is most essential to treat this bacterial factor by vaccines or other suitable measures.

The desensitization of a patient sensitized to animal dandruff is usually very effective. The cor-

responding alkali-meta-protein prepared from the dandruff is injected according to the details described under pollen desensitization.

Desensitization of food sensitized patients by injections of the food proteins is not generally recommended, but some have claimed success from feeding the food in minute and gradually increasing quantities by the mouth.

Vaccine Treatment.

In my experience owing to the almost uniform absence of response to cutaneous tests obtained with micro-organisms, vaccine treatment has been largely of a non-specific character. Cultures obtained from various septic foci were used, especially those from antra, sinuses, tonsils and also from sputum. The results of this non-specific autogenous vaccine treatment, although effective in some cases, are not as satisfactory as those obtained with specific desensitization, probably because we are dealing frequently in these patients with marked chronic bronchitis.

Peptone Treatment.

Peptone treatment has not been used in the present series, since the results obtained by Auld do not seem to be generally confirmed by other practitioners. The severe shock accompanying the intravenous injection is in many patients a deterrent, but in certain refractory cases it is worth trying since Kellaway has shown that peptones can partially desensitize an anaphylactic guinea pig.

Medicinal and Dietetic Treatment.

In acute attacks the injection of 0.3 to 0.6 cubic centimetres (five to ten minims) of adrenalin may give immediate relief, but it frequently fails to do so. Some patients in recounting the history of their illness have remarked that they have had as many as five hundred or more injections of adrenalin within the previous twelve months. It is interesting to note that in these patients the blood pressure is usually perfectly normal despite the frequent use of adrenalin.

Should adrenalin fail to give relief, morphine and atropine can usually be relied upon to give at any rate temporary alleviation, but morphine should never be given to the patient for self-administration. In some instances doses of benzyl benzoate are found to be useful.

For the more chronic type of asthmatic who gives no cutaneous reaction, potassium iodide in doses of 0.6 to 0.9 gramme (ten to fifteen grains) with tincture of stramonium and *liquor arsenicalis* taken over a long period is probably the most effective combination of drugs.

The free use of aperients, the avoidance of supper and the limitation of the size of the meals are useful general measures.

Operative Treatment.

Operative treatment of nasal polypi, a deviated septum, enlarged turbinates, suppurating antra or sinuses and septic tonsils is frequently of great value.

Those patients with protein sensitization may not be relieved of all their symptoms on desensitization, if septic foci are left untreated; but it is also true

that operative treatment alone will frequently fail to cure completely a patient suffering from pollen asthma. Other septic foci may also require attention.

Results of Specific Treatment.

In this paper the results of treatment as indicated by cutaneous tests are alone considered. Such treatment consisted of injections of pollen extracts, protein of horse and cat dandruff, specific bacterial vaccines, the elimination of certain articles of food from the diet according to the nature of the cutaneous reactions and even such simple measures as the removal of cats from the houses of patients who were sensitized to cat proteins. Now while specific measures are to be used, if possible non-specific treatment, *exempli gratia* the use of potassium iodide, stramonium, adrenalin, atropine, morphine and non-specific bacterial vaccines may be of the greatest value in treating patients not giving a cutaneous reaction and may be used as an adjunct to specific measures for some patients whose cutaneous tests yielded positive results. Of ninety-seven patients with symptoms of asthma both typical and atypical forty-eight gave cutaneous reactions, *id est* 49%. The present remarks are confined to the treatment of forty of these patients by specific measures as indicated above. Of the patients treated 65% were cured or definitely relieved. Partial relief was obtained by 22.5% and 12.5% were not benefited.

The majority of these forty patients had experienced many years of non-specific treatment with only slight relief or no improvement. The following case illustrates the value of specific desensitization.

Mr. L., aged forty-seven years, was a resident of New South Wales. The family history showed that his mother, one sister and daughter all suffer from asthma. He had hay fever of a mild character for many years. Seven years ago his asthma first commenced and he had occasional attacks until the beginning of 1922 when his asthma became extraordinarily severe and practically continuous. Medical treatment in Sydney and a trip to India had no beneficial effect and his weight had fallen to 39.5 kilograms (six stone three pounds). In February, 1923, he consulted me and cutaneous tests revealed sensitization to rye grass, cocksfoot, prairie grass and canary grass. Pollen sensitization, however, could not account for his asthma while on the trip to India, so further investigation was made. X-ray examination revealed double antral infection which was confirmed by Dr. Frank Andrew. Dr. Andrew washed out the antra and obtained much muco-pus. Operation was advised, but the patient refused operative treatment. Desensitization to pollens was then commenced and after four injections the asthma began to abate and after the third week the patient dispensed with his adrenal injections of which he had had two or three every night for many months. The asthma practically disappeared and the patient obtained eight or ten hours sound sleep each night and gained four and a half kilograms (ten pounds) in weight in five weeks.

The asthma has not recurred since the injections six months ago. It is interesting to note that in this case treatment of the pollen sensitization was completely effective although the septic foci were not treated by operation.

HAY FEVER.

One hundred years ago John Bostock first described the symptoms of hay fever, but it was

not until fifty-four years later that Blackley found pollens to be the cause of this disorder. The present considerations are concerned entirely with true hay fever due to pollens and do not touch on cases of pseudo-hay fever or non-seasonal sneezing and rhinorrhœa due to bacteria, animal dandruffs, food proteins or irritants, such as dust from saw mills, chaff cutters and so on. In some patients the sneezing, rhinorrhœa and irritation of the eyes due to pollens may be so severe as to cause semi-prostration and all social engagements have to be cancelled, but all degrees of severity of the condition exist.

Fortunately the nature of the pollens causing the irritation may now be determined in over 90% of patients who suffer from seasonal hay fever. Members of the botanical order *Gramineæ* are by far the most common cause of hay fever in Victoria. *Dactylis glomerata* (cocksfoot), *Lolium perenne* (rye grass) and *Bromus unioloides* (prairie grass) are the most frequent causative factors, but *Phalaris canariensis* (canary grass), *Phleum pratense* (Timothy grass), *Poa annua* and *Poa caespitosa* are also less frequent factors. The botanical order *Compositæ* contains several members responsible for hay fever. Of these *Cryptostema calendula-cium* (cape weed) is the commonest factor in the spring, while dahlia, cosmos and sunflower may cause trouble in the autumn. Wattle and pine tree pollen very seldom cause true hay fever; the sneezing which may occur in the presence of these pollens is due to the mechanical stimulation of a mucous membrane rendered irritable by sensitization to grass or other pollen and therefore wattle and pine tree pollen usually fail to produce a cutaneous reaction. Rose, Iceland poppy and sweet pea are occasional causes of hay fever and should be tested for in the routine examination by means of cutaneous tests. In regard to the specificity of cutaneous tests when using pollens, it should be mentioned that a patient yielding a reaction to cape weed usually exhibits more or less reaction with various other members of the order *Compositæ* such as dahlia, cosmos and sunflower, but occasionally patients highly sensitized to dahlia and cosmos have shown no reaction to cape weed. This indicates that it is not sufficient to test and desensitize with one representative of a botanical order as it recommended by some authorities. Of one hundred and twelve positive cutaneous results by pollens of *Gramineæ* and *Compositæ*, sixty-one were due to *Gramineæ*, eleven to *Compositæ* and forty to *Gramineæ* and *Compositæ* together.

The question may be raised as to why inhalation of pollens does not desensitize the patient as readily as injections of pollen extract and the answer probably is that temporary local desensitization accompanied by the well-known local reactions does occur when pollen is inhaled, but it is confined to the respiratory mucous membrane. Rapid resensitization of the membrane takes place owing to the absorption of traces of free antibody from the blood and the patient is immediately liable to another attack.

Pollen injections, on the other hand, aim at complete desensitization of the whole organism.

If one accepts Dale's view that in a sensitized person the antibody is fixed in the tissue cells, pollen injected prophylactically before the opening of the season probably gradually interacts with the tissue antibody and neutralizes it. So the person is desensitized in stages just as we saw the sensitized guinea pig could be desensitized in stages. That such injections given before the opening of the pollen season are more effective than those given during the pollen season is due to the fact that early injections are uncomplicated by the effect of pollens acting directly on the sensitized mucous membrane.

By means of cutaneous tests the discovery of the cause of hay fever in any particular patient is rendered so certain that these tests should be performed in all instances. Treatment by desensitization with extracts of the appropriate pollens is carried out in a manner similar to that described when dealing with the treatment of asthma. If possible, prophylactic injections should be given before the pollen season begins, that is, in August for spring pollens and in January for autumn pollens. Satisfactory results frequently occur even when the patient is treated during the pollen season. Any abnormal condition of the nose apart from sensitiveness to pollens should be attended to by a rhinologist.

The necessity of thorough treatment of hay fever patients must be emphasized, as many such patients if untreated develop seasonal pollen asthma and ultimately bacterial infection makes the asthma perennial.

Results of Treatment.

Ninety-two patients with seasonal symptoms of hay fever were subjected to cutaneous tests and eighty-five yielded reactions, *id est* 92%. Of sixty-two patients treated by specific pollen extracts the composition of which was indicated by the

TABLE III.
RESULTS OF TREATMENT OF HAY FEVER AND ASTHMA.

Condition.	Number of Patients.	Cutaneous Reactions.	Number of Patients Treated.	Cured or Almost Completely Cured.	Partially Relieved.	Not Relieved.
Hay Fever	92	85	62	76%	19%	5.0%
Asthma	97	48	40	65%	22.5%	12.5%
Total	189	133	102			

cutaneous tests, forty-seven were cured or greatly relieved, *id est* 76%. Partial relief was obtained by 19% and no benefit was derived by 5%. The following case illustrates desensitization of a hay fever patient.

Mrs. K., aged thirty-six years, had suffered from hay fever of seasonal type for fourteen years. The maximum incidence was from September to January. Cutaneous tests revealed sensitization to members of the natural order *Gramineæ* especially rye grass and cocksfoot.

Desensitization was commenced on October 31, using 1 in 20,000 solution and increasing doses as previously described. The fourth injection caused slight dyspnoea and oedema of the lips and from that date (November 10) the patient had no further hay fever, although prior to treatment she was in September and October suffering great discomfort and was at times completely prostrated.

URTICARIA.

The urticarial wheal with its accompanying erythema is so similar in appearance to the cutaneous reactions obtained when testing asthma and hay fever patients, that it is not surprising to find in many instances that these three disorders are manifested by a patient or appear in his family history. It is now considered that urticaria is frequently an illustration of protein sensitization and it may be possible to demonstrate by cutaneous tests the nature of the offending protein. Minute amounts of the unaltered protein are apparently absorbed from the alimentary canal, especially if there is slight damage of its mucous membrane. It has been observed, however, that a particular protein when given by the mouth may cause urticaria, but when used for a cutaneous test in the same patient may fail to produce a reaction. The protein itself in this instance is not the cause of the urticaria, but some product formed during digestion or metabolism, for if it be eliminated from the diet the urticaria disappears.

Earlier in this paper mention was made of the fact that certain amines derived from the proteins of food may cause injury to capillaries. A 0.1% solution of histamine when applied to the skin causes an urticarial wheal to appear and it is quite possible that this or allied substances when formed in the body may be responsible for the urticarial condition. If this be true, it is unfortunate, for it makes it almost impossible in many cases to determine by cutaneous tests the specific nature of the offending substance, for irritation caused by these metabolites is non-specific.

The amount of the particular protein that must be taken by hypersensitive individuals to produce urticaria, varies considerably. In some persons the minutest quantity is sufficient.

The hypersensitiveness may be a definitely specific reaction occurring to only one food, but in other cases there is multi-sensitization.

Diagnosis of the Cause of Urticaria.

Cutaneous Tests.

As mentioned cutaneous tests have very definite limitations, but it is certainly desirable to attempt an accurate diagnosis by their means.

Feeding Tests.

If the cutaneous tests fail to give the required information, then the diet should be reduced to a

minimum and suspected foods gradually added, allowing a two day's trial for each food before the next one is added to the list.

Treatment.

In the feeding of infants it not infrequently happens that because of some particular reason egg or some other protein-containing food is given for a few days and then discontinued for some considerable time. This gives an opportunity for acquired hypersensitiveness to develop and some clinicians make it a practice if possible not to allow infants such a food until they have reached an age when the food can in all probability be given over a long period of time to establish tolerance or immunity. If the exact food that causes the trouble, has been determined, it should be removed from the diet, or in some cases success is obtained by feeding the offending food in very minute amounts as recommended by Schloss and gradually increasing the quantity.

Altering the nature of the protein by boiling is sometimes effective, *exempli gratia* boiled milk may be tolerated when fresh milk gives rise to urticaria.

Since excess of fat may interfere with proper protein digestion, it is essential to have a properly balanced diet and to make every effort to keep the alimentary canal in a healthy state.

In regard to drug treatment the development of symptoms in any one attack are frequently so sudden that the real value of any one drug is very hard to determine. Adrenalin when given hypodermically frequently causes an acute attack to disappear. The real test, however, of the value of a method of treatment lies in ability to prevent further attacks.

Time does not permit of a prolonged discussion of this subject, but it is probable that digestive disorders, especially those occurring in the small intestine, may be responsible for the production of toxic amines. Furthermore, disturbances of the liver may render the individual less efficient in dealing with abnormal products absorbed from the alimentary canal.

Hence, although many cases of urticaria may be anaphylactic in origin, others may have this digestive and metabolic basis.

ANGIO-NEUROTIC OEDEMA.

Angio-neurotic oedema is clearly allied to urticaria, in fact, it has been described as "urticaria writ large." The sudden onset, oedema and erythema suggest the rapid action of a capillary poison and in many cases the subject of such attacks have been found by cutaneous tests to be sensitized to protein. One of the dangers accompanying this condition is that oedema of the glottis may occur and produce asphyxia. The following interesting case illustrates the main features of this condition.

Mr. A., aged thirty years, with several members of his family had eaten smoked blue cod for breakfast. About fifteen minutes later swelling of his lips and oedema round his eyes were noticed and about half an hour after partaking of the fish, he was scarcely able to see owing to the oedema round the eyes. When I saw him he had

intense swelling of the lips, his eyes were almost closed and he had difficulty in breathing. The condition gradually subsided and in about three hours he was apparently normal. Cutaneous tests on the same day with blue cod failed entirely to produce a reaction. As it was suspected that the patient had been temporarily desensitized during the attack he was asked to report in fourteen days' time. This he did and on performing cutaneous tests with the cod an enormous reaction occurred—a wheal 2.5 centimetres in diameter appearing in ten minutes, the surrounding erythema covered the whole of the forearm and the irritation was intense.

The patient was advised to avoid cod fish in future and has not had any further attack during the last three years.

This case is particularly interesting in that it illustrated that temporary desensitization may occur during an anaphylactic manifestation and it is not for some time afterwards that a cutaneous reaction may be obtained.

SERUM SICKNESS.

Many authorities hesitate to classify serum sickness as an illustration of anaphylaxis, owing to the fact that the clinical symptoms often occur after a primary injection of horse serum.

It has been pointed out, however, that probably the antibody formed as the result of the primary injection becomes fixed in the tissues and later reacts with a remnant of the original horse serum still in the body and so gives rise to the serum sickness.

Some patients are primarily sensitized to horses, as evidenced by the development of intense asthma in the presence of these animals.

Dale mentions that, despite inquiries, he has never heard of more than three distinct urticarial rashes appearing on a patient after a single injection of horse serum. These three distinct skin reactions are apparently due to the action of the three proteins found in horse serum.

Some form of serum reaction follows the intravenous injection of horse serum in about 90% of individuals so treated, but considering the large number of persons who have had second injections of horse serum at varying times, the cases of acute anaphylaxis following such interjections are extremely rare. Nevertheless, they do occur and sometimes with rapidly fatal results.

In many of the fatal cases a history of asthma has been present and in the more carefully investigated cases an intolerance of the presence of horses.

Sumner described the sudden death from anaphylactic shock of a young girl. A few minutes after this girl had received subcutaneous injection of 1,000 units of anti-diphtheritic serum she suddenly complained of pain in her throat, turned pale, rapidly became comatose, foamed at the mouth and died within three minutes. She had never had an injection of serum at any time previously, but she was apparently horse-sensitized as inquiry revealed the fact that she had asthma with running of the nose and irritation of the eyes whenever she drove behind a horse.

About two years ago I had under observation a lady who complained of great irritation of the eyes whenever she drove behind a horse. Her daughter had asthma. Tests revealed that the mother was

sensitized to horse dandruff and horse serum while the daughter was sensitized to horse dandruff alone. Desensitization in these two patients proved of great value. It is exceedingly probable that if any large injection of horse serum had been given to either of these patients, and especially to the mother prior to desensitization, acute anaphylaxis would have occurred. Whenever horse serum in any form is to be injected in large doses for therapeutic purposes it is wise to test previously the patient by giving a preliminary injection of a minimum of this serum under the skin or performing a cutaneous test. If these fail to produce a reaction in half an hour's time, *id est* no marked erythema appears around the area, the larger dose may be injected. When there is urgent need for serum administration and it is found that the patient is serum sensitized, he may be desensitized in the following manner. As advised by MacKenzie, a subcutaneous injection of 0.025 cubic centimetre of serum is given and the amount is doubled every half hour till one cubic centimetre is injected. Then 0.1 cubic centimetre is given intravenously and the dose is doubled every twenty minutes till the required amount of serum has been given. The injections should be diminished if there is marked reaction.

This concludes my remarks, necessarily brief, on the modern views of these various allied disorders.

There is still much room for investigation in this interesting field and with increased knowledge therapeutic results should be correspondingly improved.

REFERENCES.

1. W. L. McBride and E. H. Schorer: *Journal of Cutaneous Diseases*, February, 1916.
2. H. H. Dale: *The Journal of Pharmacology and Experimental Therapeutics*, Volume IV., page 167.
3. H. S. Bernton: *The Journal of the American Medical Association*, Volume LXXX, May 5, 1923, page 1301.
4. W. T. Vaughan: *The Journal of the American Medical Association*, Volume LXXX., January 27, 1923, page 245.
5. A. Vander Veer, Jr.: *The American Journal of the Medical Sciences*, July, 1922.
6. H. L. Huber and K. K. Koessler: *Archives of Internal Medicine*, Volume XXX., No. 6, December 15, 1922, page 689.
7. H. G. Wells: "Chemical Pathology."
8. A. Brown: *Journal of Immunology*, March, 1922.
9. F. M. Rackemann: *Archives of Internal Medicine*, August 15, 1922, page 221.
10. H. H. Dale and C. H. Kellaway: *Proceedings of the Royal Society*, March, 1923.

Reports of Cases.

MENINGITIS FOLLOWING INFUENZA.

By F. J. A. GRANT, M.B., B.S. (Melbourne),
Melbourne.

There are several interesting features about the following case report.

Clinical History.

A.F., aged forty-two years, a solicitor, was admitted to the Repatriation Hospital, Caulfield, on June 27, 1923, in an unconscious state. He had had influenza for a week previously and had been advised to remain at home for a few days. One June 26, 1923, he complained of head-

ache, but after taking "Aspirin" was well enough to attend a lecture that night. His wife said that he looked ill after returning home, but that on going to bed he went to sleep. At five o'clock on the morning of June 27, 1923, his wife was awakened by the patient in a convulsion. He had eight convulsive seizures. He was seen by a doctor who injected morphine and sent him to hospital. The doctor reported to the hospital authorities that he suspected the patient's condition to be due to uræmia.

On admission the patient was unconscious. His breathing was stertorous. His lungs were so full of moist sounds that it was impossible to hear his heart beating. There was blood in his mouth. His temperature was 39.2° C. (102.5° F.), the pulse was 130 and the respirations numbered 54 in the minute. The tongue was furred. The odour of the breath was suggestive of uræmia. The character of the pulse was good. The patient was cyanosed. Bronchial type of breathing and crepitant râles were present at the base of the right lung. Mucous râles could be heard all over the anterior aspect of the chest. The patient was catheterized and one hundred and twenty cubic centimetres of urine were withdrawn. This contained a "medium cloud" of albumin. The mouth and throat were swabbed out and the breathing became more quiet. While on active service the patient had been wounded in the head. The point of entrance of the missile had been in the frontal region and its exit in the parietal region. He had suffered from loss of sight and of memory. These had subsequently become normal. Venesection was performed and three hundred cubic centimetres of blood were withdrawn. His colour improved and the pulse-rate slowed to 120. No reflexes could be elicited and there was no rigidity. Lumbar puncture was performed and the cerebro-spinal fluid was found to be turbid and under increased pressure. About two hundred and forty cubic centimetres (eight ounces) were withdrawn before the pressure became normal. After lumbar puncture the corneal reflex could be elicited, but the patient was still unconscious. Examination of the cerebro-spinal fluid showed the presence of cocci and diplococci which retained the stain in the Gram method of staining.

On re-examination there was found to be no sign of muscular rigidity or retraction. Kernig's sign was not present. He was given rectal injections of saline solution every four hours. Three hundred cubic centimetres (ten ounces) of saline solution and fifteen cubic centimetres of brandy were given in each injection. Unconsciousness still remained but the character of the respirations improved. The respirations now numbered forty and the pulse 140 in each minute. The next morning his condition was much the same and lumbar puncture was again performed. The cerebro-spinal fluid was still turbid and under slightly increased pressure. A culture obtained from fluid withdrawn the day before showed the presence of diplococci which retained the stain by the Gram method of staining and looked like pneumococci. They were, however, somewhat different and were thought not to be pneumococci but identical with diplococci which had been described as occurring in previous influenza epidemics. It was decided to give the patient one hundred cubic centimetres of anti-pneumococci serum intravenously and twenty cubic centimetres by the intra-theal route. He died at twelve, midday, before the serum could be obtained.

Post Mortem Findings.

All the organs were engorged. The right lung was full of muco-pus, but there was no actual consolidation. The mucous membrane of the smaller bronchi was red and injected with blood. This was present almost to the trachea. The same condition was present on the left side, but not to so definite an extent. The heart muscle was flabby, but there was no valvular lesion. Some atheroma which in Dr. Watson's opinion was non-syphilitic, was present in the ascending and descending aorta. The right kidney was peculiar in that it had two ureters which were enclosed in a single sheath, but remained separate right to the bladder. The vessels of the

brain were engorged and the typical membrane of meningitis extended over both cerebral lobes. The base of the brain was quite clear and this probably accounted for the absence of rigidity. The fluid was turbid and seemed almost pure pus. The entrance and exit wounds of the bullet were observed. There was no brain lesion. In the abdomen the tip of the appendix was found to be gangrenous. The remainder of the appendix was healthy.

Comment.

The interest of this case lies in the possibility of regarding the old head injury as the cause of the condition. The history of the influenza and the appearances of uræmia together with the rapidity of the disease (forty-two hours) are noteworthy.

ANEURYSM OF THE LEFT SUBCLAVIAN ARTERY—LIGATION OF THE LEFT SUBCLAVIAN ARTERY IN THE FIRST PART.¹

By JOHN CORBIN, M.B., B.S. (Adelaide),
Honorary Assistant Surgeon, Adelaide Hospital,
South Australia.

X.Y., late private Australian Imperial Force, was admitted to Keswick Military Hospital on May 28, 1923, complaining of great pain of a burning character in the left hand and fingers. The pain was gradually becoming worse. The patient was wounded by shrapnel in the left shoulder and neck on July 31, 1917. He developed traumatic aneurysm of the second part of the left subclavian artery on August 17, 1917. He was operated on in England. At this operation the inner third of the left clavicle was removed and the inferior thyroid and transverse cervical arteries were tied. Neither the aneurysm nor the subclavian artery were touched.

On admission to Keswick Military Hospital he was suffering great pain which could only be relieved by hypodermic injections or morphine. There was wasting of the muscles of the forearm and hand and limitation of movement of the elbow and wrist joints. To move in bed he had to be assisted and could only bear it if his head was steadied and his arm carefully moved with his body. There was a large oval pulsating swelling filling up most of the supra-clavicular fossa. The inner third of the clavicle was missing as it had been removed at the previous operation.

X-ray examination revealed loss of portion of the clavicle and a fracture of the first rib about five centimetres from its posterior end without displacement. The outline of the aneurysm was indistinct, but no definite enlargement downwards could be seen.

On June 26, 1923, operation was performed by me with the assistance of Dr. H. S. Newland and Dr. J. P. O'Brien. Dr. Gilbert Brown anaesthetized the patient and used ethyl chloride and ether followed by warm ether and oxygen. An incision was made along the border of the sterno-mastoid muscle from the level of the cricoid cartilage to 3.75 centimetres (one and a half inches) beyond the sterno-clavicular articulation. A second incision was made at right angles to this along the upper border of the clavicle and the skin flap with the subcutaneous tissue was dissected outwards.

The sterno-mastoid, sterno-thyroid and sterno-hyoid muscles were divided. The common carotid, internal jugular and subclavian veins were defined. The internal carotid artery and vagus nerve were drawn inwards and the internal jugular vein outwards and an attempt to reach the subclavian artery was made. This was found impossible partly owing to the fibrous tissue resulting from the original injury and from the previous operation. The vertical incision was continued down-

¹ Read at a meeting of the South Australian Branch of the British Medical Association on August 30, 1923.

wards over the *manubrium sterni* to the level of the lower border of the first rib. The inner half of the manubrium and about 3.75 centimetres of the first rib were removed.

The subclavian artery was then defined running in a groove over the dome of the lung. The sheath was opened and two catgut ligatures were passed round the artery, separated by about 1.75 centimetres, the proximal being 3.75 centimetres from the aorta. After ligation the pulsation in the aneurysm completely ceased.

The muscles were sutured with catgut, the skin wound was closed and drainage by a rubber tube was established. The arm was wrapped in cotton wool.

The tube was removed in twenty-four hours and the stitches were removed in nine days. The patient was free from pain and was kept in bed for twenty-eight days. He was then allowed to get up. There were no trophic disturbances in the arm.

It is now two months since the operation and there is pulsation in the tumour which is smaller but not painful. It is proposed to tie the axillary artery if the pulsation becomes more pronounced. This case is reported at length as no record of ligation of the left subclavian artery in its first part in South Australia can be found.

OSTEO-MYELITIS OF THE FRONTAL BONE SECONDARY TO ACUTE INFECTION OF BOTH FRONTAL SINUSES.

By CHARLES F. WARREN, M.R.C.S. (England),
L.R.C.P. (London),

*Honorary Aural Surgeon, Sydney Hospital,
Honorary Surgeon for Diseases of
the Ear, Nose and Throat,
Royal South Sydney
Hospital.*

F.H., nineteen years of age, a well-developed young man, came to the Royal South Sydney Hospital on March 12, 1923, complaining of bad headaches. There was a swelling of the soft parts covering both frontal sinuses and a thick discharge of pus from both nostrils. The history was that he had been quite well till six days previously when he had caught cold and had noticed pain just over both eyes. This had gradually got worse and had been followed in two or three days by a discharge of pus from each nostril. The day before he came to hospital he had noticed that his forehead had begun "to swell."

He was admitted at once. His temperature was 38.8° C. (102° F.), his pulse-rate was 118 and the respirations numbered 24. I did not try to probe the frontal sinuses as the condition was too acute and the region of each naso-frontal duct was bathed in pus and very oedematous. The boy was in great pain.

Under ether anaesthesia I opened each frontal sinus in turn. Both were filled with thick creamy pus, but no polypi were present. I neither curetted nor wiped out the cavities, but contented myself with gently irrigating each with hot normal saline solution. A probe was passed down each naso-frontal duct and the track was found to be free. The wounds were sewn up and a small gauze drain left in each corner.

He progressed favourably, had a normal temperature and no headache and the wounds were healing by first intention for twenty days after the operation. On the twenty-first day he complained of sudden and intense headache over the left frontal eminence. The next day the house surgeon, Dr. Best, noticed that there was some boggy tissue over this region and that the left nostril was discharging pus. The wound of this side was looking unhealthy whilst that on the opposite side had quite healed. On the next day he incised the swelling which was soft and fluctuating, and let out about thirty cubic centimetres (one ounce) of foul-smelling pus. Bare bone could be felt in the depths of the wound. I saw the

patient next day and he was evidently very ill. His temperature was 37.9° C. (100.2° F.) and his pulse-rate was 112. The opening over the frontal eminence was discharging pus freely, as was also the original wound over the frontal sinus of that side. As Dr. Archie Aspinall was in the hospital, he was good enough to see the patient with me and it was decided to reopen the wound on that side and deal with the affected bone.

However, an anaesthetic could not be administered without the parents' consent and this could not be obtained till the following day. By this time his general condition had become worse, but I decided to operate at once. I made a vertical incision in the middle line beginning at the junction of the frontal and parietal bones and extending to the root of the nose. Then I made another incision at right angles as far as the outer angle of each orbit. I laid back each flap and freely exposed the whole of the frontal bone. In the centre where Dr. Best had opened the abscess there was necrosed bone. This I removed in each direction and exposed the *dura mater*. From this opening I cut away most of the lower portion of the frontal bone which was very friable and broke easily in the gouge forceps. I removed more bone in the upper and lower portions of the original seat of necrosis until I came to healthy bone. This necessitated the removal of most of the frontal bone. The frontal lobe of the brain could be seen beneath the *dura mater* and the wound was apparently quite healthy. I decided to leave the whole extent of the wound open so sutured back the corners of each flap to the scalp over the parietal bones and applied warm "Eusol" dressings to the wound every four hours. From this point he made an uninterrupted recovery. The temperature and pulse-rate became normal and in a week's time I let go the flaps and put them in position. I did not attempt to unite them and kept the wound irrigated with "Eusol."

The wounds have now quite healed and, though he has a very ugly scar, he is quite well. There is no nasal discharge and he does not complain of headache. I proposed improving the cosmetic appearance of the scars later, but the patient who has since resumed work, prefers to remain as he is. He was discharged from hospital twenty-seven days after the second operation.

Recovery from osteo-myelitis of the skull is very rare. I attribute the success in this instance to the very free removal of bone, the open method of dressing and the continuous application of "Eusol" to the wound.

AN UNUSUAL INCIDENT FOLLOWING TONSILLOTOMY.

By ALFRED AUSTIN LONDON, M.D. (Lond.),
Consulting Surgeon, Children's Hospital, Adelaide.

With a Note

By R. H. PULLEINE, M.B., Ch.M. (Sydney),
Lecturer on Otology, University of Adelaide.

A PALE delicate girl, seven years of age, upon whom I had operated for empyema nearly five years previously, was brought from the country with a recent history of severe tonsillitis and with presumptive evidence of adenoids in addition to her obviously enlarged tonsils. I recommended their removal and accordingly she was anaesthetized at 8.20 a.m. on November 12, 1917. The right tonsil was removed first and then the left tonsil which was smaller than the right, was excised. It was seen lying on the blade of the Morrell Mackenzie guillotine, but it slipped back into the mouth; it was felt for, but not detected there. No dyspnoea then ensued. The growths were then deliberately removed with the curette and the child turned on to her right side to allow the blood to escape from her mouth. At this stage as she was recovering from the anaesthetic, chloro-

form followed by ether, it was noticed that she had become rather cyanosed, although Dr. Cooper found that air was freely entering the chest. The idea immediately flashed through my mind that the tonsil had been sucked down into the air passages. The child now became noisy and restless. As the cyanosis persisted I kept her for a while longer under observation on the operating table. She complained of want of breath as soon as she was able to speak and later on she had pain in both shoulders. At 9 a.m. I left the private hospital but I saw her again at noon. It was reported that she had been screaming loudly at intervals and that she was very restless, complaining that she could not get her breath. At times, too, she appeared to be more cyanosed than at others and then propping her up seemed slightly to relieve her. Between 2 p.m. and 3 p.m. she vomited without distress a quantity of bright congealed blood, a cough was also noticed, but her distress did not appear to be as severe as during the morning. The temperature was found to be only 37° C. (98.8° F.), but the pulse-rate was one hundred and thirty-two and the respirations numbered twenty to twenty-four in the minute. The face was pale, she had an anxious look and the lips were still blue.

Examined at 5.30 p.m. she was found to be moving the right side of the chest scarcely at all, whilst the breath sounds were very weak. Obviously there was obstruction of the main right bronchus. At 7.20 p.m. she was violently sick and in the material ejected there was found the tonsil. The mother who was with her, noticed an immediate improvement and the nurse observed that the red colour had returned to her lips. At 9.30 p.m. she seemed comfortable and next morning, November 13, the abnormal physical signs in the chest had entirely disappeared. She had slept well all night and had not coughed at all. No unpleasant symptoms followed this incident and she left for home in about a week. Six weeks later her mother wrote commenting upon her considerable improvement and thanking me for my skill and attention.

From what information I can gather from the specialists in Adelaide this accident is a very rare one indeed. It is somewhat difficult, I am told, to suck a body like an excised tonsil into the air passages and it is far more difficult to expel it again.

Note.

When Dr. A. A. Lendon some years ago asked me for my opinion on the possibility of aspiration of a tonsil into a lung, I investigated the literature available and could find nothing of the kind actually recorded. It must, therefore, be very rare, but I suspect that it nearly happens occasionally.

When Dr. Lendon again recently reported the case with the opinion of a well-known laryngologist, that even if a tonsil did get into the sub-glottic space, the ventricular bands would from their rigidity prevent its being returned, I wrote to Dr. Chevalier Jackson, of Philadelphia, for his opinion. He kindly interested himself and his letter emphasizes the rarity of the accident. He finds that there is no mechanical or anatomical reason why it should not occur.

The rarity of occurrence is certainly due to the excellence of the excitability of the mucosa of the larynx; this in turn causes a reflex movement of deglutition, thus side-tracking the foreign body into the oesophagus.

We all know that swallowing of a tonsil is by no means rare and that except under the deepest anaesthesia the glottis is capable of determining that this shall be the only route possible.

In Dr. Chevalier Jackson's letter he writes:

"Your very interesting letter brings us two questions. As to personal experience with the aspiration of the tonsil during or after tonsillectomy I have not personally seen such a case. We have had in the States a great many cases of abscess of the lung following tonsillectomy and the investigations of one of my assistants, Dr. William F. Moore, points strongly to the probability of these abscesses

being of aspirative rather than hæmatogenous origin. Quite a number of cases have been bronchoscoped by myself and others, but so far as I know, no one has ever removed a piece of tonsil or other tissue, or clots. . . . Your second question as to the possibility of aspiration of the tonsil I think can be answered with a fair degree of accuracy, basing the answer on some cases with substances other than tonsil. A mass of meat of the size of a tonsil has been aspirated into the lungs a number of times and has been coughed out. Possibly none of these masses was so large as the very largest size of hypertrophied tonsil, but a number of them have been as large as an average tonsil removed with the capsule intact. In one case which I did not see personally, a patient was asphyxiated by aspirating into his trachea, a large oyster. This oyster was much larger than the most gigantic tonsil ever seen. Asphyxia was due to the oyster lodging at the bifurcation and obstructing both bronchi.

The normal adult larynx will permit the passage of a rigid tube 11 × 14 millimetres outside diameter. Soft tissue like a tonsil much larger than this size could be squeezed into and through the glottis in either direction by the air pressure, positive and negative, on inspiration and expiration, respectively.

The foregoing is stated in a dogmatic sort of way. It is not, however, meant to be so. The statement is simply my personal opinion to be taken for what it may be worth and it may be altogether wrong.

Reviews.

ABDOMINAL PAIN.

W. A. BRAMS AND A. P. LUGER have translated Professor N. Ortner's book on abdominal pain into English.¹ The author deals with abdominal pain of all kinds apart from that due to trauma. In the first chapter he deals mainly with severe generalized abdominal pain with or without ileus. An excellent description is given of the varieties of pain and of the accompanying symptoms in different morbid conditions which help in the differential diagnosis of the cause of pain. There follow chapters on pain localized in different regions of the abdomen and diseases of the gastro-intestinal, renal, glandular and vascular systems are considered in their relation to abdominal pain. The subject is dealt with as completely as anyone could wish and the author has not been biased by any apparent personal fad in his descriptions and in his methods of diagnosis. Spinal caries and other bone diseases, myalgia, *tabes dorsalis* and other nervous diseases are appropriately mentioned and the kind of pain to which each gives rise, has been discussed in detail.

In a practical way this book would appear to be one of the best productions of the Vienna school; it should be an excellent book of reference for both the surgeon and the physician. It may be said that the language of the translator is more American than English and there are a few passages which are not clear and lucid on this account. The text is not divided into headings and sub-headings in quite the same way as is seen in most English books, so that there is at times a tendency for one subject to run into another. There is an excellent index which enables the reader to find immediately the subject to which he wishes to refer. The chapters on epigastric pain, pain in the right hypochondrium and right ileo-caecal region are especially valuable and interesting. In all it is difficult to imagine a book more complete and satisfactory in its particular field.

¹ "Abdominal Pain," by Professor Dr. Norbert Ortner, Vienna; Authorized Translation by William A. Brams, M.D., Medical Corps, United States Navy, and Dr. Alfred P. Luger, University of Vienna; 1923. New York: Reiman Company; Sydney: Angus & Robertson, Limited; Post 8vo., pp. xii. + 362. Price: 17s. 6d. net.

The Medical Journal of Australia

SATURDAY, NOVEMBER 10, 1923.

The Congress.

In a few days' time there will be the largest gathering of medical practitioners ever held in Australia. The first session of the Australasian Medical Congress (British Medical Association) marks a stage in the history of medicine in Australasia. A little over three years ago we described in some detail the evolution of the medical congress in this part of the world and indicated in that sketch the importance of the movement in the development of medical science. Under the old scheme the congress survived for many years through the energy and determination of certain broad-minded individuals. As has been pointed out on many occasions in these columns and elsewhere its very existence was precarious, for it depended for its continuity on the slender thread of one man's life. Moreover, that man was chosen on account of his status in the profession and was in consequence a senior practitioner of eminence. Had a President died after the termination of one session before the executive committee could be appointed by that President, the Australasian Medical Congress would have died with him. The constitution was what the President and the committee appointed by him chose to make it and its haphazard composition tended to restrict its authority. The old congress established the habit of passing resolutions on divers subjects, but these resolutions nearly always remained ineffective, because of the want of adequate machinery to translate them into action. It is very doubtful whether the rapidly adopted resolutions concerning medico-political or sociological matters represented the considered opinions of the medical profession. All this is now history. The old order has passed and the new order has come to stay. The Australasian Medical Congress (British Medical Association) has been built on the solid foundation of a real constitution sponsored by the Federal Committee of the British Medical Association in Australia. All that was valuable in the old congresses

has been saved and the rest has been scrapped. A meeting of a large number of medical practitioners for the purpose of discussing scientific problems provides an opportunity for the closest examination of each thesis put forward and for the critical analyses of doctrines evolved as a result of observation. The setting is attractive and it must encourage all our competent workers to carry out original research in order to present it to this important conclave.

The organization of the first session of Congress is of a high order. Dr. A. L. Kenny, the Honorary General Secretary, has evinced unusual abilities as an organizer and rare energy. The genial President, Mr. G. A. Syme, and the Executive Committee guided by their excellent Secretary have reason to be satisfied with the result of their labours. From the inaugural meeting in the evening of November 12 to the combined meeting of all the Sections in the morning of November 17, 1923, members will come to a sumptuous intellectual feast. The records of original work of a high order, discussions on the reliability of orthodox and heterodox doctrines, résumés of clinical experience and descriptions of novel devices in surgical and other treatment of disease will be offered. Throughout the dominant note will be prevention, for modern medicine places prophylaxis before treatment of the individual patient. There will be coordination between the Sections by combined meetings, since specialization with detachment fosters one-sidedness and distortion of outlook. Each group will have the opportunity of debating subjects properly belonging to it. If the occasion arises, resolutions on scientific matters may be adopted at the sectional meetings. Those relating to tuberculosis will be submitted to the plenary meeting convened for the discussion of this disease and its prevention. Eventually all resolutions will be referred to the Federal Committee, because it is accustomed to handle matters affecting the public welfare and the interests of the medical profession and has the necessary machinery for translating desires into action. It will be noted that the Congress has been relieved of the burden of dealing with medico-political subjects. This will mean a material gain, since the members will have five mornings and three afternoons for the exclusive

consideration of scientific problems. In addition the members will be privileged to listen to a few addresses and lectures delivered by the leaders of medical thought in the Commonwealth.

It must not be forgotten that the title of the new organization is significant. The Congress, although controlled by the Federal Committee, has been organized with the help of the Branch of the British Medical Association in New Zealand. It will thus be truly Australasian. The Commonwealth of Australia and the Dominion of New Zealand stand in close geographical and economical relationship. The medical profession in both sections of the Empire has the same problems and the same ideals. The same impulses dominate the lives of the practitioners in each land and these stimuli induce the same kind of responses. It will be a great occasion and one that will abide as a monument to the industry, ability and resourcefulness of the medical profession in Melbourne.

Current Comment.

OSTEOGENETIC DURAL ENDOTHELIOMA.

In 1903 Brussard and Lereboullet described a condition that they termed *hemispheric*, a state of hypertrophy confined to half the cranium including the face. The condition was observed in two patients. In one of these it was not strictly confined to one side. In this instance they found that the *dura mater* on the right side was covered with tumours of various sizes of the nature of angiolithic sarcomata. Since then other observers have reported tumours of a similar nature both with and without signs of hemisphericity, tumours to which the term "endothelioma" has been applied. That reported by Barling and Leith is a case in point. In all these the cells of the tumour growth have invaded the overlying bones of the cranium to a varying extent.

During recent years there has been an increasing tendency on the part of many morbid anatomists to discard the term endothelioma. They have pointed out that there is no direct evidence of the existence of such a structure. The term "endothelioma" implies that the growth arises from endothelial cells which it must be remembered are mesothelial in origin, and that these tumour cells are in a state of active proliferation. Several workers have protested against the application of the name endothelioma to these so-called osteogenetic dural tumours. Mallory, though not one of the first to do so, put the position very clearly in 1920. He argued that these growths arise from the endothelium lining the inner surface of the *dura mater* and the outer surface of the arachnoid, in other words from the

sub-dural space. The "dural endothelium" is not genetically identical with the endothelium lining blood vessels, but is differentiated from mesenchyme at a later period of embryonic development. During development the arachnoid becomes to a certain extent separated from the *pia mater* and causes spaces to appear which are lined by fibroblasts. Later on the arachnoid becomes completely separated from the *dura mater* leaving this without endothelium. The cells resemble endothelial cells but are really undifferentiated and potential fibroblasts. Mallory concluded that the best term for application to tumours arising from the arachnoid would be arachnoid fibroblastomata. Cushing and Weed drew attention to the fact that calcareous deposits in the form of psammoma bodies or *corpora amylacea* of varying stages of development and of varying sizes are of common occurrence in the arachnoidea of man and the lower animals. They held that the "dural endotheliomata" when examined histologically present the same cellular arrangements as are seen in the *corpora amylacea* and that for this reason their origin is in all probability from the mesothelium.

Dr. Wilder G. Penfield has recently investigated this subject.¹ He states that he has retained the term "dural endothelioma" on account of its general usage. He searched the records of the National Hospital, London, for instances of brain tumour associated with cranial hyperostosis. The latter condition was found in ten among four hundred and twenty patients suffering from brain tumour. Each of these ten patients had what is commonly known as a dural endothelioma. Nine of the tumours were studied microscopically. Seven patients had been operated on by the late Victor Horsley and two by Mr. Percy Sargent. Four had died at varying periods up to six weeks after operation, death being due to the effects of the operation. The others recovered and apparently were completely relieved of all symptoms. Dr. Penfield points out that the first symptom in the majority of instances was headache and that this was not similar to that usually associated with increased intracranial pressure, but was neuralgic in character and was probably referable to the *dura mater*. In seven of the patients there was a considerable period of time during which swelling and local pain were the only complaints of the patients. Secondary symptoms came at a later stage. Early diagnosis is important since operation undertaken before the onset of secondary symptoms is more likely to be successful. Dr. Penfield considers that the presence of a slow growing bony prominence with local pain of a stabbing character should be considered pathognomonic of the condition.

Dr. Penfield describes the structure of these growths. The cranial portion in cases of shorter duration though hard on palpation appears to be more spongy than the normal cranium. "Endothelioma" cells in strands and columns fill the cancellous spaces and the Haversian canals. In cases of longer duration the prominence of the skull may be very hard and large. Apparently the growth of the tumour into the bone stimulates further bone

¹ The Journal of Neurology and Psycho-Pathology, May, 1923.

formation. Three are no metastases. Dr. Penfield says that the intracranial portion of the growth is much the same as that of ordinary subdural "endothelioma." It is evident then that Dr. Penfield is not one of those who would discard the use of the term "endothelioma" altogether. It will be remembered that this point was raised by Dr. Keith Inglis in connexion with a case reported by Dr. B. T. Edye (see THE MEDICAL JOURNAL OF AUSTRALIA, December 9, 1922). Dr. Penfield's communication is thus of interest from two points of view, the purely clinical and that of the morbid anatomist.

THE LÆVULOSE TOLERANCE TEST.

LÆVULOSE was used originally as a test for liver function on the basis of its excretion in the urine. It was for this reason that the results obtained were not reliable. It is now recognized that the presence of hyperglycæmia is much more important as an indication of bodily function than glycosuria. Maclean and de Wesselow pointed out that the only sugar in ordinary use which did not produce a rise in the blood sugar content, was lævulose. They showed that a healthy adult could take fifty grammes of lævulose without the production of any appreciable rise in the blood sugar concentration. Spence and Brett in 1921 confirmed these findings. They suggested that the only explanation of the difference in the blood sugar concentration curves following the ingestion of glucose and lævulose was that the latter was so readily taken up by the liver and stored as glycogen that it did not appear in the systemic circulation. If the functional capacity of the liver was diminished in any way, it would not be able to deal with the lævulose presented to it. A rise in the blood sugar concentration would then result. They pointed out that if the liver were inefficient, ingestion of glucose would cause hyperglycæmia. The variations under these circumstances, however, would not be so noticeable as those produced by the ingestion of lævulose. They concluded that the estimation of the blood sugar concentration after the ingestion of a dose of lævulose is a valuable indication of the efficiency of the liver. The height and length of the blood sugar curve would be in proportion to the degree of liver inefficiency. They held that this test would be most useful in estimating the degree of liver damage in hepatitis due to the use of "Salvarsan."

Dr. Gordon Covell has recently studied this question and has investigation the efficiency of the test and applied it in certain tropical diseases.¹ The dose of lævulose given by Dr. Covell in his work varied with the weight of the patient. Thus a patient weighing seventy-six kilograms (twelve stone) received fifty grammes, a patient weighing fifty-seven kilograms (nine stone) received forty grammes and a patient weighing forty-five kilograms thirty-five grammes. The amount of blood sugar was estimated immediately before giving the lævulose and at intervals of one and two hours after its ingestion. In the first place the test was

applied to ten persons who were healthy and apparently normal. In each instance a slight increase in the blood sugar curve was noticed after one hour. In none was the increase more than 0.012% or twelve milligrammes in each hundred cubic centimetres. Thirteen patients taken at random from the general medical wards were subjected to the test. No abnormal rise occurred in nine instances. The features presented by the remaining four were of interest. One man had been a heavy drinker and Dr. Covell states that it might be assumed that he had some degree of cirrhosis of the liver. Another man had previously been an inmate of hospital on account of an attack of cholecystitis. A third man had suffered some time previously from severe peripheral neuritis, the result of arsenical poisoning. It was assumed that the liver tissue had been seriously damaged by the toxic effects of the arsenic. It is possible that in these patients there was some lesion of the liver sufficient to account for an inefficiency. In the case of the first and the third, however, the justification of this assumption in assessing the value of a test is questionable. A fourth individual gave a moderate response to the test. In this instance there were no grounds for assuming that there was any hepatic inefficiency. As the patient was sixty-one years of age, the possibility of the presence of senile atrophy of the liver is suggested. The test was applied to fourteen patients in whom clinical evidence of hepatic disease was found. An abnormal rise in the blood sugar curve occurred in all but two. In one of these *post mortem* examination revealed that the common bile duct was obstructed by fibrosis of the head of the pancreas. In the other instance an apparently justifiable diagnosis of cirrhosis of the liver had been made.

The test was also applied to the blood of patients who were suffering from amœbic dysentery. In every instance in which either the cysts or the free forms of *Entamoeba histolytica* were present in the stools, a definite increase in the blood sugar concentration occurred. Dr. Covell states that by repeating the test after treatment it is possible to ascertain whether or not the treatment has been successful in restoring the efficiency of the liver. Some of the patients tested had a hyperglycæmia before the test was applied in the first instance. In one or two instances the patient before treatment had no hyperglycæmia, but manifested an increase in blood sugar after ingestion of lævulose. After treatment some of these patients manifested a hyperglycæmia, but no further concentration of blood sugar occurred after the ingestion of lævulose. The result in these patients is designated as "normal." No attempt is made to explain the anomaly.

Dr. Covell claims that he has fully corroborated the results obtained by Maclean, Spence and Brett. It must be admitted that the numbers on which this claim are based, are very few and that no direct evidence has been brought forward to show that effects are actually due to the causes claimed for them. It is probable that the test has a certain clinical value. More work will have to be done, however, to define its limitations as a method of investigation.

¹ *Guy's Hospital Reports*, July, 1923.

Abstracts from Current Medical Literature.

SURGERY.

Pancreatic Asthenia.

ALLEN O. WHIPPLE (*Annals of Surgery*, August, 1923) discusses pancreatic asthenia as a post-operative complication in patients with lesions of the pancreas. The chief symptoms of pancreatic asthenia are muscular weakness, anorexia, nausea and vomiting, ptalism, epigastric pain and rapid emaciation. In a series of two hundred and thirty unselected patients operated on for diseases of the biliary tract forty-eight manifested definite lesions of the pancreas. Eighteen of these presented the combination of symptoms which has been known as pancreatic asthenia. The symptoms appeared at intervals varying from two to nine days after operation and lasted for periods varying from two to thirty days. Eight of the eighteen patients died while in hospital, three died after leaving hospital at periods varying from two to twenty-six months. The combination of symptoms is not dependent on the presence of carcinoma, for only six among the eighteen suffered from carcinoma. When recovery occurs, it takes place rapidly. The author concludes that involvement of the pancreas increases to a considerable extent the risk attached to operations on the biliary tract. Surgical operation for inflammatory lesions and calculus formation limited to the gall bladder should be undertaken before the process of inflammation extends to the pancreas.

Operative Treatment of Malignant Disease.

HERBERT J. PATERSON (*The Lancet*, May 12, 1923) discussing the operative treatment of malignant disease with special reference to the tongue states that the part played by glands in the spread of cancer is not sufficiently appreciated. It is fair inference that these glands are Nature's barriers. It is even possible that they may, to a limited extent, be able to deal effectively with cancer cells. Whilst theoretically the modern practice of removing the growth and glands in one piece is ideal, in practice it must rarely be possible not to leave a few cancer cells in the wound or in the surrounding tissues. These cells pass to and are arrested at the nearest lymph glands. If all the removable glands have been excised with the growth, the cancer cells will pass to more distant groups. The author suggests that it is possible that if the glands draining the region are left, they may arrest the cancer cells which have remained behind and prevent their spread to more distant parts. After these glands have "scavenged" the operation area they can be removed before the cancer cells arrested in them have time to spread

to more remote regions. Especially are these considerations applicable in cancer of the tongue, where some cancer cells must always be left. In this affection the author suggests a first operation using cautery rather than knife to remove the growth and a second operation four or five weeks later to remove the glands. Four out of five patients treated by this method showed good results after seven years. Latterly the author has been trying the same method in dealing with carcinoma of the breast.

The Technique of Operations on the Colon for Tumour.

LOCKHART MUMFERY (*Proceedings of the Royal Society of Medicine*, August, 1923) revises the knowledge and practice in the technique of resection and anastomosis of the colon for tumour. Much of the advance has been due to improved methods of diagnosis as most of the earlier operations were designed to deal with the obstruction which was present, rather than with the tumour itself. It is generally agreed that to attempt to resect or anastomose the large bowel in a patient suffering from any degree of obstruction is wrong; this should only be attempted after all obstruction has been relieved. Most surgeons now agree obstruction in the large bowel is best treated by draining the caecum. The author says that obstruction of the colon should be treated by simple drainage of the caecum without exploratory laparotomy. This should be postponed until after the obstruction has been entirely relieved. Careful preparation is necessary and important before any attempt is made to resect the colon. The bowel should be thoroughly cleared out and at the same time a methylene blue pill or teaspoonful of charcoal should be given. The charcoal should appear in the stools within twenty-four to thirty-six hours later. If it fails to do so the bowels should be further cleared. At the same time some intestinal antiseptic is administered. As soon as the bowel is satisfactorily cleared large doses of liquid paraffin should be given. Several days should elapse between the purgation and the operation and the patient should not be starved. This preliminary treatment is most important. Most growths occur on the left side. For these a diagonal incision, as used for exposure of the left ureter, is best. When there is doubt as to the locality of the lesion a mid-line incision is best. The extent of the colon removed must vary, but as a general rule in the case of a tumour in the caecum or at the hepatic or splenic flexures it is better to resect the entire angle rather than to attempt local resection. Whilst twenty years ago the popular method of joining two portions of bowel together was by means of some apparatus such as Murphy's button *et cetera*, increased experience and improved technique in stitching were found to give better results. Preference was given to

lateral anastomosis, as it was found that axial anastomosis in the large bowel was likely to lead to leakage. This is entirely a matter of blood supply and if the bowel is cut at an angle of 45° from the mesentery outwards at both ends to be sutured leakage is no more likely to occur at the suture line than in lateral anastomosis. Lateral anastomosis is preferable to axial anastomosis for many reasons. In axial anastomosis clamps, if used, should be momentarily released to determine that the blood supply of the divided bowel is adequate. The mucous coats are sutured and then the peritoneal. The suture line is covered over with an omental graft. It does not matter very much whether the graft is a live or detached graft. For many years the author has made it a practice to drain the caecum as a routine in all cases of anastomosis of the colon. A tube is invaginated into the caecum and left in for eight days. It is then removed and generally no leakage takes place. Other methods of axial anastomosis without exposing the mucous membrane are described. In closing the ends of the bowel for lateral anastomosis *et cetera* the author sews over a clamp, reinforcing it if necessary with a mattress stitch. Other methods are described. For anastomosis near the lower end of the pelvic colon, besides the abdomino-perineal operation, closing the lower end and performing a colostomy, the ends of the bowel can be anastomosed by the tube method. Balfour's modification of this operation should be employed and a tube should be tied in the caecum at the same time. While performing total colectomy the author removes the great omentum at the same time.

Cardiospasm.

STEPHEN H. WATTS (*Annals of Surgery*, August, 1923) discusses the use of cardioplasty for cardiospasm. He points out that many methods have been used in the treatment of cardiospasm with varying results. Perhaps the simplest way of dealing with the condition is to get the patient to swallow a silk thread and, when time has been allowed for it to have passed into the stomach, to guide a bougie over it and dilate the constricted part. If the thread cannot be passed into the stomach, the latter may be opened and the thread passed into the stomach. In 1904 Mikulicz opened the stomach and stretched the cardia by means of a rubber shod clamp. Some surgeons prefer to dilate the cardia by their fingers. Even after stretching there is a tendency to recurrence. Attempts to dilate the strictured area by the fingers without opening the stomach, have been made. The stomach wall is invaginated into the cardia on the end of the fingers. This method has not been successful. In 1907 Reisinger in dealing with an enormously dilated oesophagus opened the posterior mediastinum by rib resection and excised an area of the oesophageal wall. Leaking occurred at the suture

line and it was many weeks before healing took place. The patient was much improved by the operation. Meyer at a later date performed the same operation through the transpleural route. In 1910 Wendel reported the use of cardioplasty for cardiospasm. He turned up the costal margin, exposed the cardia and after making a longitudinal incision stitched the wound transversely. The patient was cured. In 1914 Heller described a method of extra-mucous cardioplasty. After exposing the oesophagus he cut the muscle of the cardiac end on the anterior and posterior aspects down to the mucous layer.

Repair of the Common Bile Duct.

LEWIS L. McARTHUR (*Annals of Surgery*, August, 1923) discusses the question of the repair of the common bile duct. He records in detail a method used by him in 1907 with success and on seven occasions since that date. He split the stricture in the common bile duct and excised the scar tissue. He then inserted a rubber tube the proximal end of which had a double reverse cuff enlargement. The enlarged end of the tube was placed in the dilated portion of the common duct above the site of the stricture and fastened in position by means of an encircling suture of chromicized catgut. The free end of the tube was carried into the duodenum through the distal portion of the duct and the ampulla so that twenty to twenty-eight centimetres protruded into the duodenum. No leakage of bile occurred from the wound. The tube was passed *per rectum* thirty-three days after insertion. The author lays stress on the fact that by the constant duodenal and jejunal "tug" upon a catheter inserted through the duct or side of the duodenum it will ultimately be drawn into the intestine and be discharged *per rectum*. The shortest time taken for discharge in the eight instances recorded by the author was twenty-seven days; the longest time was sixty-three days. If the surgeon desires to retain the tube for a longer period a simple waxed silk ligature may be tied to the catheter. This ligature may be brought out between the ends of the duct and carried to the surface through a small rubber tube. The anchorage thread may be cut when desired. It is simply a matter of judgement as to how long it will take the epithelium to grow between the two ends of the common duct.

Gastro-Enterostomy.

JOHN B. DEEVER (*Surgery, Gynecology and Obstetrics*, August, 1923) discusses the question of gastro-enterostomy. The anterior and original method, performed first in 1881, has gradually fallen into disrepute and the posterior method is now preferred by the majority of surgeons. The presence of a long loop of jejunum which often results in a vicious circle, is the chief objection to the anterior method. The only justification for attempting

this method is that the posterior or other methods are impossible. First performed for the relief of ulcer of the stomach in 1893, the posterior method has been considerably developed in the succeeding years. Whilst the performance of gastro-enterostomy in the absence of a demonstrable gastric lesion is a practice that is strongly to be condemned, in the presence of ulcer it is both a physiological operation and one that is correct from an anatomical point of view. It results in definite changes in both the motor and secretory functions of the stomach. Amongst surgeons wide variations of opinion exist as to the best method of procedure, whether a gastro-enterostomy alone should be done, how the actual ulcer-bearing area should be dealt with or whether a sub-total gastrectomy should be performed. The author's views may be summarized as follows: With the exception of small ulcers which can be excised and allow a closure to be made without in any way altering the normal motor function, excision of the ulcer with gastro-enterostomy is the method adopted. Removal of the ulcerated area is important, as it is impossible to distinguish an early carcinomatous ulcer from a chronic callous ulcer. Small duodenal ulcers should be excised or destroyed by cautery and a gastro-enterostomy performed, but in the larger ulcers of the first part of the duodenum, where the bowel wall is widely infiltrated, pylorotomy with posterior gastro-enterostomy is performed. Gastro-enterostomy alone is indicated in cicatricial obstruction of the pylorus and in extensive benign ulceration of the pyloric end of the stomach, when the general condition of the patient will not allow more radical procedure. Gastro-enterostomy alone is also indicated in ulcers involving much of the lesser curvature or of the posterior wall of the stomach with adhesions to the liver or pancreas when excision or gastrectomy is impossible. In ulcer of the cardiac end of the stomach, when other methods cannot be employed, gastro-enterostomy may be performed, but with less satisfactory results. Gastro-enterostomy alone is further indicated in gastric or duodenal ulcer at a critical period when recurrent hæmorrhage forbids removal of the ulcer. It will also relieve the symptoms of obstruction to the pylorus or duodenum, which may sometimes occur from adhesions to the liver after removal of the gall bladder or after operations on the common bile duct. In hour-glass stomach with a small pyloric pouch a gastro-enterostomy is made into the larger cardiac pouch. It is occasionally best to perform a gastro-enterostomy after circular resection of a saddle-shaped ulcer of the lesser curve, but where the induration is widespread sub-total gastrectomy is to be preferred. Gastro-enterostomy has given good results in extensive chronic gastric dilatation. In a few cases of leather bottle stomach the author has had success with gastro-enterostomy

alone, but the Balfour modification of the Polya operation is to be preferred. Gastro-enterostomy should be certainly part of the procedure in dealing with perforated ulcers, when the patient's condition permits. The best results of gastro-enterostomy are to be expected firstly in pyloric stenosis, where the stoma furnishes a new outlet and in functional stenosis of the pylorus-pylorospasm. No operation for gastric ulcer is complete until primary foci of infection such as those of gall bladder appendix *et cetera* are examined and removed, if necessary. Persistence of symptoms may be due to errors of technique, development of new ulcers or recrudescence of old ones. Acute and sub-acute ulcers should be treated medically, but the treatment of chronic gastric ulcer is essentially surgical. It is merely courting disaster by temporizing with medical treatment. The complications of hæmorrhage perforation and malignant degeneration are too frequent and too serious to allow procrastination. Medical treatment fails to rectify any causal focus of infection in the abdomen and although it relieves the symptoms for the time being, at the most it allows healing only by the formation of cicatricial tissue. It is not before but after operation that medical treatment has its place and a good surgical result has too frequently been forfeited because of dietetic indiscretions of the neglected patient.

Pneumectomy with the Cautery.

EVARTS A. GRAHAM (*The Journal of the American Medical Association*, September 22, 1923) describes a method of pneumectomy with the cautery for dealing with chronic suppuration of the lung. He draws attention to the difficulty of affording adequate drainage in this condition. Multiple abscesses are present and the various methods of artificial compression of the lung fail to give relief. The operation of lobectomy is a very formidable procedure and is attended by a high mortality. An operation which will permit removal of affected tissue without the preliminary separation of adhesions, will eliminate the chief dangers. The author's operation is described by him as a lobectomy performed by the actual cautery. He has performed it in three instances with successful results. The field of operation is exposed by turning up a skin flap and dissecting away the ribs over the affected area of lung tissue. With a large soldering iron at a red heat an excavation is made into the lung tissue. Drainage tracks are opened up and all diseased tissue removed as a charred mass. A large cavity lined by eschar remains. Sloughs separate in about ten days. No serious hæmorrhage was encountered by the author in his patients. He points out that the blood pressure in the pulmonary artery is only about one-sixth that of the general systemic circulation. There is a complete absence of post-operative shock.

British Medical Association News.

SCIENTIFIC.

A MEETING OF THE VICTORIAN BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held in the pathological lecture room of the Walter and Eliza Hall Institute of Research, Melbourne Hospital, on September 5, 1923, Dr. L. S. LATHAM, the President, in the chair.

Asthma and Hay Fever.

DR. IVAN MAXWELL read a paper entitled "Modern Views of Asthma, Hay Fever and Allied Disorders such as Urticaria, Anglo-Neurotic Oedema and Serum Sickness" (see page 483).

DR. C. H. KELLAWAY in opening the discussion congratulated Dr. Maxwell upon his admirable survey of the subject.

Dr. Kellaway drew attention to the value of specific desensitization. Although many workers had obtained good results by non-specific methods, specific desensitization had the great advantage that it was more likely to lead to permanent results. The early evidence obtained concerning the duration of active sensitiveness in animals suffering from anaphylaxis had led to the belief that sensitization produced by a single injection of alien protein persisted throughout the animal's life. Later work had indicated a gradual but definite loss of sensitiveness in such animals with the lapse of time.

Immunized animals or those which had received several injections of foreign protein, lost their sensitiveness much more rapidly.

In animals which were the subject of experiment, sensitiveness quickly returned after desensitization, whether specific or non-specific, but immunization, whether partial or complete, led to great increase in the rate of spontaneous loss of both fixed and circulating antibody. The result was that after a few months such animals were wholly insensitive.

These observations served to emphasize the value of specific desensitization, particularly if some degree of immunity could be produced by repeated injections of the alien protein.

DR. S. O. COWEN said that Dr. Maxwell's admirable paper had covered such a wide field that he felt he need offer no excuse for speaking to certain points only and not attempting a general discussion of the broad field of the clinical manifestations of the anaphylactic state.

His own experience was chiefly in connexion with asthma which no one doubted was due in a considerable percentage of instances to protein sensitization. The fact that in only half the patients was it possible to demonstrate skin sensitiveness did not invalidate this statement. When the enormous number of proteins which might act as antigens, was considered together with the possibility that the offending protein might be of metabolic origin and consequently of unknown chemical composition, it was surprising that the proportion of positive findings was so high.

The therapeutic significance of reactions to skin tests was not always, however, very clear. A patient under treatment by Dr. Cowen provided an illustration of some of the problems. A man, aged twenty-two years, had recently become subject to asthmatic attacks. He had a very clear history of sensitiveness to fish, the ingestion of which frequently gave rise to swelling of the lips and tongue. He had been admitted to hospital and skin tests had been performed by Dr. Maxwell. Fish protein, especially that of schnapper, had given a strong reaction, but a test meal of schnapper had given rise to no symptoms, asthmatic or otherwise. At a later period the skin tests had been repeated in the out-patient department and it had been found that sensitiveness to chicken feathers existed in addition to that towards fish protein. On inquiry it had been ascertained that the patient was using feather pillows and removal of these had diminished the number of attacks, but had not abolished them. The his-

tory was suggestive of a bacterial element in the aetiology, but there had been no response to the stock bacterial proteins. Miss Williams, of the Walter and Eliza Hall Institute, therefore, had kindly prepared powder for testing from all the organisms cultivated from the patient's sputum. Two of these—both non-haemolytic streptococci—had given feeble reactions to skin tests and a vaccine prepared from them had been singularly successful. That the patient had been acutely sensitive to these organisms was shown by the fact that on two occasions a large increase in the dose of vaccine had resulted in a prompt reaction in the form of a brief paroxysm of asthma. Otherwise he had been free from attacks since the initiation of vaccine treatment two and a half months previously.

Dr. Cowen observed that the history of this patient introduced numerous problems of treatment, two only of which he proposed to consider. The first was the difficulty presented by the numerous examples of multiple sensitization which were encountered. How this was to be solved but by trial and error it was hard to see, but even this represented a great advance on older and more haphazard methods.

Secondly there was the question as to how and why autogenous streptococcal vaccines gave such good results. His figures in this connexion approximated those of Rodgers who had found that 50% of asthmatic subjects were completely relieved by this means. Into the difficult and unknown problems as to the relative parts played by the specific bacterial toxins and the bacterial bodies as foreign protein, he dared not venture. Two facts, however, merited consideration. First, that infection appeared to enhance susceptibility to anaphylactic phenomena and second, that desensitization with various protein derivatives lessened specific sensitiveness to a particular protein. Perhaps these facts offered some explanation of the success of vaccine.

He had, therefore, adopted the following routine in the treatment of asthma. First he tried the skin treatment. Should a significant response be obtained (one which was consistent with the history especially as regards exposure and seasonal variations) he proceeded to treatment along the lines thus indicated. Failing such a reaction, he treated the patient with an autogenous streptococcal vaccine. Should that also fail, he tried the administration of peptone intravenously.

Dr. Cowen said that he felt bound to confess that under these conditions peptone had yielded no results, but he lived in hope.

While he had discussed the anaphylactic aspect of asthma only, he did not wish it to be thought that he regarded this as the whole explanation of this baffling disease. He thought, with Coke, that for the present they must regard the asthma paroxysm as a symptom, dependent on several different causes. Whilst the anaphylactic response to various foreign proteins was perhaps the chief of these, it was necessary to remember that it was intimately bound up with hereditary predisposition to sensitization and that reflex nervous factors could not be neglected.

DR. FRANK ANDREW extended his congratulations to Dr. Maxwell on his excellent address. Since the commencement of his work Dr. Maxwell had not treated a patient with asthma or hay fever without his (Dr. Andrew's) help. It would thus be realized that when he differed from Dr. Maxwell, it was with no hostile feeling.

He could not agree with Dr. Maxwell in the sharp distinction he had drawn between asthma and asthmatic bronchitis. Patients affected with the latter did suffer typical acute asthmatic paroxysms. How often had such a patient, not infrequently a medical man, who was wheezing badly, said: "This is nothing, merely the bronchitis; when the asthma comes is the time of real trouble!"

He had had opportunities of bronchoscopy in asthmatics during the attack and had been impressed with the striking reduction of lumen in the large bronchial tubes of the tertiary group. Another feature was the presence in the lumen of mucus of such viscosity that it could not be

sucked out and required plucking with forceps for its removal. He had seen this typical condition in the asthmatic bronchitic patient as well as in the subject of true paroxysmal asthma.

In a patient whom Dr. Maxwell had cured brilliantly by dahlia desensitization, the asthmatic state had been limited to the lower lobe of the right lung.

Dr. Andrew said that he wished to emphasize one point because of its practical bearing on rhinological work. Just as some individuals could not be cured without nasal surgery, others who were never completely relieved by surgical measures, responded in a remarkable manner to desensitization. In the very worst asthmatic he had ever seen the maxillary and ethmoidal sinuses had been packed with foul putty-like pus. Radical clearance of these sinuses had greatly improved this patient, but she had still suffered from a very bad asthma. The septal mucosa and area of the ethmoid scar had remained obstinately oedematous. Dr. Maxwell had found this patient sensitive to cape weed and a long course of injections had not only cured her remaining asthma, but had effected wonderful improvement in her nasal state.

Dr. R. R. STAWELL said that he wished to take advantage of the opportunity of congratulating Dr. Maxwell on his explicit presentation of a very involved subject and on the great amount of careful work he had carried out in relation to asthma and hay fever. Of much of this work he had personal knowledge and from time to time had had the pleasure of many informative discussions on the subject with Dr. Maxwell.

He felt he must support Dr. Maxwell in the distinction he had drawn between true paroxysmal asthma and asthmatic bronchitis. At the same time, however, Dr. Maxwell had indicated that a degree of infective bronchitis commonly supervened in the asthmatic in whom there existed sepsis about the throat or nasal sinuses. Thus the two conditions might become combined in one individual as described by Dr. Andrew.

Dr. Stawell remarked further that he made it a rule in dealing with asthma to have the cutaneous sensitization tests carried out. In very many persons most satisfactory results attended treatment by desensitization in the direction indicated by the cutaneous test. There remained, however, a group of patients in whom the cutaneous tests failed to yield a reaction and it was frequently found in such instances that bacterial infection was present in the nasal sinuses. The possibility that such persons might have acquired sensitiveness to more than one protein of bacterial origin and derived from a variety of micro-organisms flourishing in the nasal sinuses, had to be considered. Dr. Maxwell had employed specific desensitization in treatment and the superiority of such method over that in which injections of foreign protein of entirely non-specific character were used, had been emphasized in the authoritative remarks of Dr. Kellaway.

Dr. Kellaway had also made the important suggestion that the aim of treatment should be not merely to desensitize, but to go further and immunize the patient so that the recurrence of the sensitive state which at present made it necessary to desensitize periodically, would be abolished. Further advance in treatment was to be anticipated in the evolution of a safe method of immunization.

Dr. Stawell wished particularly to emphasize the important fact that the methods which Dr. Maxwell had followed in the investigation and treatment of asthma were a distinct and great advance on anything formerly followed or obtained and that no matter how complicated the investigations might be and no matter how difficult the interpretation of signs of hypersensitiveness might be in individual cases, the methods explained by Dr. Maxwell should be followed.

Dr. R. J. BULL after expressing his appreciation of Dr. Maxwell's very able address mentioned one or two points of possible importance on which the lecturer had been more or less silent. In regard to length of treatment, what were the indications which guided him as to when to discontinue specific treatment? Then the question arose, also raised by Dr. Kellaway, as to carrying on

the treatment beyond the desensitizing stage to that of active immunity. As the highest concentration of antigen used (one in twenty) was apt to give rise to alarming symptoms, had Dr. Maxwell found better results by using smaller doses of the next series of dilution (one in two hundred) over a longer period?

It occurred to him also that the psychic factor involving important reflexes played a prominent part in the manifestations of anaphylaxis. For example he had noticed an interesting phenomenon in himself, being somewhat susceptible to hay fever (grass pollen). On one occasion while conducting a series of University extension lectures during the hay fever season he had found himself hardly able to undertake three of the lectures. But from the moment of entering the lecture room until the end of the lecture all symptoms (lacrimation, nasal obstruction, sneezing, catarrh) had disappeared. Probably a strong mental reflex had acted as a counter irritant and had directed the nervous energies into other channels. He regretted to note Dr. Maxwell's 5% of failures in hay fever when the offending pollen had been identified and suggested that some of the failures might be obviated by combining specific treatment with other drugs or other methods.

Dr. A. NORMAN McARTHUR mentioned the case of a woman to whom he had had occasion to administer anti-streptococcal serum. A dose of thirty centimetres had been given subcutaneously and the effect had been immediately beneficial as shown by a decline in the temperature and excellent progress on the part of the patient. On the fourteenth day after the injection of the serum she had again become febrile and had exhibited a widespread urticarial eruption of such an extremely irritable character that she was rendered semi-delirious by the pruritis. Relief had been afforded by the use of carbolic acid lotion in a strength of one in forty and the administration of calcium lactate. The patient had done well eventually, but he wished to inquire whether the onset of the serum sickness as late as the fourteenth day was not an exceptionally delayed manifestation of this sequela.

Dr. J. R. BELL said that Dr. Maxwell was to be congratulated on the high percentage of skin reactions and cures he had obtained in the treatment of asthma and hay fever. Such satisfactory and encouraging results had not been the invariable experience of competent workers in England and America. He was of opinion that this was largely due to the mode of preparation of the antigens and would be glad to hear the procedure adopted by Dr. Maxwell, for doubtless he prepared his own reagents. Those supplied by various firms of manufacturing chemists were quite useless.

Asthmatic individuals were rarely susceptible to but one food protein. It was, therefore, essential that a wide variety of antigens should be tested even when a reaction had been obtained with one, in order that subsequent treatment might be wholly satisfactory.

The ætiology of asthma was most complex and it was unwise to consider anaphylaxis as more than one factor. The psychic factor for example was important, for both asthmatic and hay fever attacks had been induced in those sensitized to certain proteins merely by auto or hetero-suggestion.

Dr. W. J. PENFOLD inquired of Dr. Maxwell the average number of antigens that he required to use in determining sensitiveness to foreign proteins, and the advisability of combining these antigens in mixtures in such a way as to use a minimum number of tests to ascertain the specific antigen to which the patient was sensitive.

He desired to know also whether stock vaccines in the case of hay fever were of any definite use or whether it was a fact that the stock vaccine might induce sensitiveness on the part of the patient to a pollen to which he was not already sensitive. Had Dr. Maxwell any definite evidence in that regard?

Dr. Penfold also asked Dr. Maxwell's opinion as to the soundest policy for the Commonwealth Serum Laboratories to pursue to meet the national need for diagnostic agents and vaccines for hay fever. In view of the dif-

ferent forms of hay fever that were due to a few of the pollens, it seemed feasible that the laboratories might have an extensive field of usefulness in preparing the commoner of these agents.

Another point raised by Dr. Penfold was whether Dr. Maxwell had any evidence of a negative phase. By this he meant that if a pollen vaccine were used during the season when a patient was liable to an attack, might the injection of the antigen render the patient more liable to an attack or make more severe any attack which might supervene?

He expressed the opinion that psychical factors had to be considered as a cause of angio-neurotic oedema and asthma, though they had not been dealt with by Dr. Maxwell. He described the condition of a patient in whom disturbances had been able to induce a swelling of the eyelids and other signs of local oedema and also attacks of asthma.

He then recounted the treatment of nine patients with asthma by intravenous injections of peptone and showed that the results of this non-specific treatment had not been magical in any, although in the majority some relief had been given. One of the patients who had received a total of about thirty injections of peptone, had been considerably affected by the later injections. The first eighteen injections had been of 2% peptone administered at three-day intervals, starting with 0.18 cubic centimetre (three minims) and mounting by increasing doses of 0.06 cubic centimetre to 1.2 cubic centimetres. This had been followed by the injection of 5% peptone starting at 0.3 cubic centimetre (five minims) and mounting by increasing doses of 0.12 cubic centimetre to a dose that had not been recorded in the report to the laboratories. The patient still being considerably affected with asthma, he had then been treated with mixed peptone solution (Commonwealth Serum Laboratories' product). A dose of 0.3 cubic centimetre had first been administered, then 0.4 cubic centimetre, two doses of 0.5 cubic centimetre, one each of 0.6 cubic centimetre and 0.7 cubic centimetre and three of 0.8 cubic centimetre. These injections had induced within fifteen minutes after administration asthmatic attacks or suffusion of the face, watering of the eyes and dyspnoea. On the last dose of 0.8 cubic centimetre being administered (which was approximately the thirtieth injection from the commencement) the patient had suddenly become acutely ill. He had turned white, grey and then bluish. The pulse had not been palpable at the wrist, but at the subclavian had been found to be weak and rapid. The breathing had stopped, the head lolled on one side, the eyes had rolled showing a large amount of the sclerotic, the patient had become unconscious, the heart sounds had not been audible, no reflexes that were tried, had been elicited and the tension of the eyeballs had been very low. The administration of adrenalin, oxygen and strychnine had been accompanied by the recovery of the patient who had been left with some headache, wheezing and rhonchi. In addition to the signs described an erythematous itching eruption with whitish wheals had occurred on the skin.

In the administration of peptone for the treatment of asthma the hypersensitiveness of some patients to the product should not be forgotten and the signs of definite hypersensitiveness in the earlier doses should make one very cautious in continuing its administration with increasing doses.

DR. G. P. O'DAY drew attention to the fact that those taking part in the discussion had not taken cognizance of tuberculosis among the possible causes of asthma. Tuberculosis merited consideration for several reasons. In the first place there was the well-known fact that the onset of pulmonary tuberculosis might closely simulate bronchial asthma. Secondly it had been maintained by competent observers that a necessary precursor of asthma was an injured lung. Tuberculosis was the agent which most commonly damaged the lung and might predispose to asthma by inducing a certain amount of fibrosis which rendered the lung irritable. In the third place it was possible for asthma to be an incident in the course of a tuberculous

infection not manifest in the sputum. Several recent writers had obtained good results in asthma with injections of tuberculin.

Dr. O'Day suggested that a research into the complement fixation reaction for tuberculosis in a series of asthmatic patients might be of value.

Dr. MAXWELL in reply said that he was pleased to have Dr. Kellaway's support in regard to the question of specific treatment of patients affected with asthma.

He quite agreed with Dr. Cowen that cutaneous tests were by no means infallible and needed caution in their interpretation. The cutaneous test should, if possible, be performed with bacteria obtained from the patient under investigation, but detailed examination of these micro-organisms entailed a great deal of extra work.

With reference to Dr. Andrew's remarks, he wished to say that although the subjects of asthmatic bronchitis had at times intense constriction of their bronchial tubes, similar physically to that of true asthma, yet it still had to be demonstrated that this constriction was of an anaphylactic nature.

Dr. Stawell had raised the interesting question as to whether patients could not only be desensitized but whether they could also be highly immunized. It was difficult to answer this question with certainty, but a considerable number of injections would probably be required to obtain the desired result.

The desensitization of the 5% of patients suffering from hay fever who had not been benefited by treatment, referred to by Dr. Bull, was a difficult problem. These patients as a rule had poor physique and seemed unable to produce sufficient antibody.

Dr. Maxwell said that he thought it was not uncommon for serum sickness to occur on the fourteenth day after the therapeutic injection as mentioned by Mr. McArthur.

The late hour prevented discussion of the preparation of antigen.

In reply to Dr. Penfold, Dr. Maxwell stated that he did not think stock pollen extracts were desirable. He suggested that the Serum Laboratories might prepare for practitioners dry pollens of rye grass, cocksfoot and prairie grass as representatives of the *Gramineae*, and cape weed and dahlia of the *Compositae*. These could be used for cutaneous tests and the corresponding fluid extracts for desensitization. The results might not be as satisfactory as those obtained after fuller investigation of the patients.

Further data were required to establish the point raised by Dr. O'Day.

MEDICO-POLITICAL.

THE Council of the Tasmanian Branch of the British Medical Association has opened negotiations with the friendly society lodges in the State in regard to the rates payable for medical benefit. It has been pointed out that the increase in wages in Tasmania during the seven years from 1916 to 1923 is equivalent to 50%. The increase in the cost of living, according to the Tasmanian Government Statistician, is 30%. The Council has therefore decided to claim an increase of the payments to be made to the medical officers of the friendly society lodges from twenty shillings to twenty-six shillings and eight pence and an increase in the mileage rate from five shillings for distances over three miles to six shillings and eight pence. Members are urged not to enter into any arrangements with the lodges pending the conclusion of the negotiations.

NOMINATIONS AND ELECTIONS.

THE undermentioned has been nominated for election as a member of the New South Wales Branch of the British Medical Association:

FLETCHER, ROBERT HORNER, M.B., Ch.M., 1923 (Univ. Sydney), Royal North Shore Hospital of Sydney, St. Leonard's.

Medico-Legal.

THOMPSON *versus* THE AUSTRALASIAN MEDICAL PUBLISHING COMPANY, LIMITED, AND OTHERS.

AN action to recover damages for an alleged libel by Dr. G. S. Thompson against the Australasian Medical Publishing Company, Limited, the proprietors of THE MEDICAL JOURNAL OF AUSTRALIA, the Shipping Newspapers, Limited, the printers of the same journal, and H. W. Armit, the Editor of the journal was heard in the Supreme Court of New South Wales, before Mr. Justice James and a special jury of twelve on September 19, 1923, and following days. Mr. W. A. Holman, K.C., Mr. H. B. Bignold and Mr. Esme Bignold, instructed by Mr. Norman E. Gregg, appeared for the plaintiff and Mr. A. R. J. Watt, K.C., Mr. F. S. Boyce and Mr. P. E. Spender, instructed by Messrs. Tress and Cocks, appeared for the defendants.

The Plaintiff's Case.

In opening the case for the plaintiff Mr. Holman said that the article complained of had appeared in THE MEDICAL JOURNAL OF AUSTRALIA of June 25, 1921. The journal had not a wide circulation, but it circulated widely among medical practitioners. The article had reference to an inquiry into the sanity or otherwise of a certain Mrs. Farr, in which Dr. Thompson had taken a leading part. The inquiry had come before Mr. Justice Street and as the result of a very lengthy and careful investigation His Honour had taken a view hostile to the one put forward by Dr. Thompson. He had found that this lady was not in a state of mind which would justify her being liberated as of perfectly sound mind. When the judgement of Mr. Justice Street had been given against the view that had been put forward (and put forward with absolute *bona fides* and absolute honesty and sincerity and a sacrifice of his pecuniary interest by Dr. Thompson), the journal had published the article bitterly attacking Dr. Thompson in his personal character and holding his professional standing up to the reprobation and the hatred of the whole of the medical gentlemen in the State in a manner absolutely unjustifiable and going entirely beyond anything that could be fairly said about the matter.

Mr. Holman said that Dr. Thompson had come from South Africa to Australia. He held very high qualifications. He was a Fellow of the Royal College of Surgeons of England. In South Africa he had had the distinction of being appointed the secretary of the medical congress held there. He had been a member of the British Medical Association. He had lived in peace and amity with the world and with the professional world in Sydney, greatly respected, doing a large and steadily increasing practice and admired and esteemed by all who knew him. He had read papers at meetings of the British Medical Association and these articles had been readily published in medical journals "like this." The article had appeared in a weekly paper not in the next issue after the appearance of Mr. Justice Street's judgement, but seven or eight weeks later.

Mr. Holman proceeded to read portions of the article. The first part dealt with Section 99 of the *Lunacy Act, 1898* (New South Wales). He admitted that the author was at liberty to express his opinion concerning this section. The sentence:

The weakness of the provisions contained in Section 99 lies in the fact that any busy-body, without any knowledge of psychiatry, without a legal training and without even a modicum of common sense or judgement, may set a cumbrous piece of legal machinery in motion.

was a general statement and anyone who held that view, was at liberty to express it. He read those parts that dealt with the inquiry and with Mr. Justice Street's comments on Dr. Thompson's action, and said that the language, though bitter, was probably permissible if it had stopped there. In reviewing the first part of the article he said:

"So far you will see that the article, although written in strong terms with a good deal of animus against Dr. Thompson—I frankly recognize that up to that point the article is nothing more than strong comment of a legitimate character. That is the type of thing, . . . which the law permits. The freedom of the press has to be protected. . . . Had the article stopped at that point, I venture to state that you would not have assembled here this morning to hear me address you, because there would have been no legal complaint arising out of that."

The article continued: "The Farr case calls for comment in another direction. Apart from the medico-legal aspect there is the medico-ethical. Dr. George Stanley Thompson on his own showing has followed a course which would have resulted in the removal of his name from the register of medical practitioners, had the incidents happened in Great Britain." Mr. Holman explained that the name of a medical practitioner could be removed from the Medical Register in Great Britain if he were convicted of a crime or if he were guilty of infamous conduct in a professional respect. The sentence was not comment; it was a statement of fact that Dr. Thompson had done something which could be described in these terms. In regard to the statement that Dr. Thompson had insinuated himself between a medical practitioner and his patient, Mr. Holman said that this was a thing strongly and rightly reprobated by the ethics of the medical profession. He found that it was not comment when it was stated in the journal that Dr. Thompson had defied all the rules of medical ethics and sought to follow Mrs. Farr from pillar to post in the vain endeavour to set the authorities at naught and to secure her freedom. He maintained that what Dr. Thompson had done was to appeal to the authorities and not to set them at naught. Everyone of these statements of fact was fundamentally untrue, not untrue in some jot or tittle, but radically and essentially untrue. In regard to the passage: "To allege that Professor Farr was conspiring with others to keep Mrs. Farr in a hospital for the insane for personal gain is so scandalous a charge . . ." Mr. Holman said that in any allegations made by Dr. Thompson against Mr. Farr he merely repeated statements made to him by the patient herself.

The article with this series of definite misstatements and deliberate untruths wound up with an appeal to the medical profession to deal with Dr. Thompson in some way. He presumed that Dr. Thompson should have to defend himself legally against an effort to deregister him or in some other way against some punishment inflicted perhaps by the Association.

In addressing himself to the law of libel, Mr. Holman pointed out that a man might write as strenuously as he liked; as long as it was an honest expression of his honest opinion upon some matter of public interest, he could not be attacked. The statement of facts must be absolutely true. If he made a statement of fact that was untrue and then commented on it, the defence of fair comment fell to the ground.

Mr. Watt interjected that he could not admit that every statement need be absolutely true. It should be substantially true. Mr. Holman accepted the correction. He continued by informing the jury that the defendants had pleaded that the matters charged in the declaration, so far as facts were stated, were true in substance and in fact and so far as they were comments, were fair comments and that it was for the public benefit that these matters should be published.

Turning to the question of fair comment Mr. Holman admitted that if a man took public action, he would have to put up with public criticism. If the comment were based on a statement of fact that had no real foundation in fact, it could not be fair. He asked the attention of the jury while he dealt with what actually did occur and promised that they would see how infamously unfair this alleged statement of fact was. He proceeded to recite the story of Dr. Thompson's association with Mrs. Farr in considerable detail. After he had arrived at the point when the plaintiff had spoken with Dr. Davidson over the telephone, he stated that Mrs. Farr had been spirited away and the plaintiff had not seen her. After he had approached Mr. Dooley and Mr. John Storey, Dr. Thompson had put

the whole matter on paper at the request of Mr. Storey. This letter was read. Attached to the letter was a report in which the plaintiff had stated that he was emphatically of opinion that Mrs. Farr was quite sane and therefore her detention and control by others was improper and irregular. The report was read. Mr. Holman referred to the fact that the money paid to Mrs. Metcalfe had come from Mrs. Farr's estate. Passing on Mr. Holman said that when the action taken by Dr. Thompson to induce the Premier to make inquiries had come to nothing, he had had an interview with Professor Farr, during the course of which he had told the Professor the various things with which his wife had charged him. Professor Farr had not denied any of these things. He might have had excellent reasons for that, but the fact remained that he had not denied them. After this interview and after he had received a letter from Professor Farr saying that he could not agree to seeing Mrs. Farr or to Dr. Thompson seeing her, the plaintiff had been confirmed in his belief that there was something bad at the whole thing and so he had gone further. Reference was made to a deputation to Mr. Dooley at which Dr. Thompson had spoken, and to a letter he had written to the *Evening News*. Mr. Holman claimed that there was nothing but comments on the administration, pointing out defects in the administration and the direction in which they could be improved. Dr. Thompson had also made a statement at a meeting of the annual conference of the Labour Party and a resolution had been passed by that body, asking the Government to take some action about Mrs. Farr.

He had then, still believing that this lady was being wrongfully detained, decided to take action under the *Lunacy Act*. He had arranged with a solicitor to take up the matter. The solicitor had obtained an order of the Court and on this order had seen Mrs. Farr and obtained her instructions to go on with the inquiry. This involved arranging for the expense of the inquiry. At the beginning Dr. Thompson had promised Mr. Gregg that he would be responsible for any expenses incurred. Although this promise had not been reduced to writing, the fact remained that Dr. Thompson had ultimately paid a large sum, over £500, toward the expenses of the inquiry. Mr. Holman believed that he was still liable for some outstanding sum. The inquiry had been properly held before Mr. Justice Street; able counsel had been retained. It was fair to say that while Mr. Justice Street had found against Dr. Thompson's contention, the medical evidence had been divided. They had to assume that Dr. Thompson had been wrong, because they had the finding of the Court which had settled the matter.

Mr. Holman asked the jury whether a man who had done what he had shown Dr. Thompson had done, on the facts before him and upon the information which had been available to him, was afterwards to be persecuted and crucified in the journal circulating among the profession as a man unfit to be associated with by honourable medical men. Dr. Thompson had not come to the Court seeking any recognition or acknowledgement of any service he had attempted to render. All he asked was to be left alone. He had done all that from a sense of duty. He had done his utmost to move the authorities and, when the authorities had not moved, he had moved himself at his own expense. If he had erred, he had erred in excellent company, because other doctors had given the same views on oath before Mr. Justice Street. The matter had then been over. Instead of that they found some eight weeks after this malignant and savage attack directed against him in the columns of the journal. He emphasized the point that it was eight weeks after the matter had died down.

He claimed that it was impossible to challenge or to criticize the *bona fides* of Dr. Thompson in this matter. He had believed in the woman who had come to him. He had proved the genuineness of his belief by spending money out of his own pocket in her interests. He had had nothing to gain. Believing that an appeal had been made for help by the victim of an atrocious form of persecution, he had left no stone unturned to help her. That was the only sin of which he had been guilty and for that he was to be pilloried in the way he had been pilloried in the journal. Their submission was that for an attack of that kind made

upon a man of high standing in an honourable profession some heavy compensation must be made. He asked that he should be compensated not merely pecuniarily, but that by the verdict of the jury it should be shown that his conduct was worthy of an honourable man and a gentleman, that he had done what humanity and professional duty dictated and no more and that for doing it, he should be commended.

Mr. Holman asked the jury to consider what was to be the position in the future if the author and publishers of an article like that could escape scot-free. The next time somebody was wrongfully shut up in an asylum, every medical man in the country would be warned to let them remain shut up. "See what happened to Thompson who interfered!" He had been attacked and his reputation had been assailed and when he had come before a jury to re-establish his reputation, he had failed. Dr. Thompson came to the Court to be protected against attacks of this nature.

Before closing Mr. Holman made some remarks to the jury in regard to the possibility that he would not have another chance of addressing them, if the defendants did not call evidence. He claimed that it was a most improper attitude for papers to take to publish an article which blasted the reputation of a professional man, and then to rely solely on the ingenuity of their counsel, without making an effort to justify the facts by calling witnesses.

Evidence for the Plaintiff.

The plaintiff, Dr. George Stanley Thompson, was called. After having given details of his qualifications and experience, he stated that his medical studies had included psychiatry. He had not specialized in it, but had studied it and had taken an interest in it since his student days. He had been a reader of *THE MEDICAL JOURNAL OF AUSTRALIA*. He had paid his membership fee to the British Medical Association. He had been a member of the British Medical Association in June, 1921. By virtue of his membership he had received *The British Medical Journal* and *THE MEDICAL JOURNAL OF AUSTRALIA*. He had not paid anything extra for them. He had come to Australia as a member of the British Medical Association and had automatically become a member of the New South Wales Branch.

On Wednesday, October 6, 1920, Mrs. Farr had called at his house accompanied by Mrs. Metcalfe. She had asked him to prescribe for her and had said that she had a cough. He had examined her. Then Mrs. Farr had said to Mrs. Metcalfe: "Oh! you can go. I just want to have a talk with the doctor." Mrs. Metcalfe had left the house and Mrs. Farr had gone into the matter of her detention in an asylum, starting from 1912, that she had been in and out of asylums during that period on several occasions. She had claimed that she was being improperly detained there on the ground that she was not insane. She had shown witness a lot of documents and had made certain statements in regard to her husband. The documents were from the Public Trustee in New Zealand, from the Master in Lunacy of New South Wales and from her solicitor in New Zealand. She then had statements of moneys expended on her behalf out of her estate which had been submitted to her by the Public Trustee and the Master in Lunacy, and also documents in which she was asked to give instructions for "this, that and the other" from the Public Trustee and the solicitor. He had also seen a letter from Dr. Chisholm Ross. In reference to her property she had said that the whole trouble had arisen originally over a will. She had made a will giving her husband half of the estate. She had said that they had not been getting on well together and that she had decided to alter the will to one that would be less favourable to him. She had said that everything had been in readiness for this will to be signed and she had been about to tear up the first will, when her husband had said: "You must not destroy a will" and had taken the will from her. It had been arranged that the solicitors were to come to have the matter finalized, but before that could be arranged, she had been sent up to the asylum under the name of Mrs. Brown. She had then referred to some property she had

in the Argentine. She had said that when she was in the Argentine a document had been put before her in Spanish and that she did not know the language. Witness did not know whether it had been put before her by Professor Farr, but anyhow it had been at his instigation. That was what she had said. She had said that she had been induced to sign this document, although she had not understood its contents. They had been living amicably at that time and she had had no reason for thinking that everything was not in order. Witness had seen documents from the Public Trustee confirming her statements that she had property in the Argentine. She had also stated that she had lent Professor Farr £1,300 in regard to a house and that he had afterwards disposed of the house and had kept the money. She had said that a motor car of her own had been sold by Professor Farr without her consent and that he had bought a motor cycle for himself. Another thing of which she had complained, was the fact that she had been brought from New Zealand to Sydney on false pretences. She had been told that she was going to Sydney to consult surgeons in regard to her pelvic condition. When she arrived, she had been put into a taxi and taken to the Mount Saint Margaret's Hospital. She also had complained that her husband had not even seen her off when she had left New Zealand. Witness gave further evidence concerning Mrs. Farr's complaints of neglect by her husband, of being detained in Australia when she wanted to be in New Zealand and of having her maintenance paid out of her own estate. She had said that she had been unable to get a statement from Dr. Sharp. Witness did not know whether Dr. Sharp had been her medical attendant; he was a nephew of Professor Farr and had been acting in the place of Professor Farr. The main complaints had been that, although her husband had put her into an asylum, she had had to pay the piper for it. Her husband had been free from the ordinary cost of maintaining her. Her demeanour had impressed witness very much. She had struck him as a very intelligent, rational and coherent woman. "Naturally one has suspicions of people when there is any question of insanity involved and I cross-examined her to the best of my ability to endeavour to ascertain if there were any weak spots, but she struck me as being an excellent witness, if one might say so, and she never contradicted herself." She had a remarkable memory and that had impressed him. A person who had been insane for many years, had his memory affected and the logical and clear manner in which she had presented her case, had impressed him. She had not repeated herself, but had adopted a logical sequence and had kept to it. Mrs. Farr had said that she would come back to report how she was getting on. On the Saturday morning following the Wednesday he had received a telephone message from Bellevue Hill where she was staying. In the course of the first interview she had mentioned various doctors who had seen her during her periods of incarceration. She had also said that she did not wish to see Dr. Davidson. Witness had told her that she could please herself in this matter. If she did not wish to see Dr. Davidson again, she was to ring him up and tell him so. She had said that she would do so.

Witness said that the generally recognized custom of the profession was that a doctor was at liberty to see anybody who came into his consulting room, but if he was called into see a patient at a house and he had reason to believe that somebody else was attending the patient, he got in touch with that doctor or requested the patient to do so. The object was to prevent any conflict in attendance at the house. A patient could always dismiss a doctor who was attending him. In regard to visits the custom was often honoured in the breach as well as in the observance. On the Saturday Mrs. Farr had telephoned to him to inform him that she was not feeling well enough to go to him and to ask him to visit her. He had gone to Bellevue Hill. She had asked him to make a pelvic examination. She had said that she had had an operation two or three years previously and she had also mentioned something about an operation at the previous interview. She had told him that she had had a pelvic operation on the womb for misplacement and that the appendix had been removed

at the same time. She wanted to know what the condition was. Witness had satisfied her that the womb was in a good position. She had said that she sometimes felt uncomfortable. Witness had explained that that might occur after an operation. By discomfort he meant that there was occasionally actual pain. After the examination she had shown him additional documents. He could not remember exactly what they were, but they were all in connexion with the matter. Witness supposed that he was with her about three-quarters of an hour. He thought that he had spent with her on the two occasions two or three hours altogether. Her demeanour at the second interview had been just the same. He had heard from her next day by a letter from Mount Saint Margaret's Hospital. At the second interview she had asked him if he would send her away to a private hospital. She had been so worried that she would like a change, a little peace and quietness. Witness had arranged for her to go to Nurse Daring. He had told Mrs. Metcalfe to take her there. As he was leaving the house, Mrs. Metcalfe had come out and had said that Mrs. Farr had no funds to pay for a taxi. Dr. Sharp had control of the funds. Witness had suggested that Mrs. Metcalfe could lend her some. Mrs. Metcalfe had replied that she would have to ring up Dr. Davidson. Witness had said that Mrs. Farr had told Dr. Davidson that she did not wish to see him again; that she was entitled to please herself. He had asked her to have Mrs. Farr removed. He had gone away and when he arrived home that night at about eleven o'clock, there were two telephone messages for him. The one from Bellevue Hill and the other from Dr. Davidson. He had rung up Bellevue Hill and had asked to be allowed to speak to Mrs. Farr. At first Mrs. Metcalfe had refused and it was not until after he threatened her with the police that she had allowed him to speak to Mrs. Farr. Mrs. Farr had then told him that she had had a dreadful time and that Mrs. Metcalfe had threatened to have her removed or something done to her. Witness forgot whether she had asked him to go round or not. He had said that he would do what he could for her. He had then rung Dr. Davidson. He had said: "There was a telephone message waiting for me when I got home from you. I guess what it is about. I have seen Mrs. Farr. I understand that she has been a patient of yours, but she tells me that she is supposed to be insane. I do not agree with that. I cannot find any evidence of insanity." Dr. Davidson had said that she was insane. Witness had asked if he could give him any evidence of insanity or if he could tell him any foolish thing she had done. He did not agree. Perhaps if they had a consultation about the matter, Dr. Davidson could go into the matter with him. He suggested that he could go to Dr. Davidson's rooms on Monday or even if there was urgency, on the following day, Sunday. He understood that Mrs. Farr had been threatened with removal to Ryde if she proved refractory and did not do as she was told. Witness had asked Dr. Davidson to give him an undertaking that nothing should be done in the meantime and he would also give an undertaking not to interfere in any way and not to see Mrs. Farr. Dr. Davidson had agreed at first to see witness at Macquarie Street, but when he had made that request, which he thought was a reasonable one, he had said: "No; certainly not." He had replied that under the circumstances it would not be much use having the consultation. That had terminated the conversation. He had then rung up Bellevue Hill, but could not get on to the telephone. He thought what happened was that Mrs. Metcalfe had come to the telephone. He did not know whether Mrs. Farr had come to the telephone or whether Mrs. Metcalfe had pulled her away. He had reported the matter to the telephone exchange and had then rung up the police. In reply to His Honour witness stated that he had made a mistake. He had seen Mrs. Farr on Saturday afternoon, not in the morning. On the Monday he had gone to Bellevue Hill to the house, but nobody had answered. He had tried to get in touch with one of the doctors. He had then rung up Dr. Davidson and had told him that he had been to Bellevue Hill and the result. He had asked Dr. Davidson if he could tell him if any developments had taken

place or what had happened. He had asked where Mrs. Farr was and Dr. Davidson had refused to tell him. The ground that the latter had given was that it was no business of his, that the case had been put into his hands by Professor Farr and that he resented witness's interference. He had then gone to the Chief Secretary's office on the following day and had seen Mr. Dooley. He had told Mr. Dooley what he had observed himself. Mr. Dooley had called Mr. Harkness and had asked for the documents. Witness remembered that Mr. Dooley had pointed to one statement on the documents to the effect that the New Zealand authorities had thought it strange that Professor Farr should have objected to an official visitor visiting Mrs. Farr. Mr. Dooley had referred witness to Mr. Payne who had been in New Zealand. Witness had seen Mr. Payne and had told him the same thing. The latter had promised to write to somebody in New Zealand. Mr. Dooley had referred him to Mr. McGirr, because the question of asylums was under the Department of Public Health. Mr. McGirr had asked Mr. Harkness and had instructed him to give witness a permit to see Mrs. Farr. He had discussed lunacy administration in general with Mr. McGirr. A few days later Mr. Harkness had rung witness on the telephone and had told him that a permit could not be given without the permission of the Inspector-General and that he would have to get that. Later he told witness that he could not get a permit from the Inspector-General as private mental hospitals were not under his jurisdiction. Witness would have to get permission from Mrs. Farr's friends. A few days later somebody rang him up, he did not remember whether it was Mr. Harkness or somebody at Drummoyne, stating that he could see Mrs. Farr in the presence of two doctors. It might have been Dr. Sharp who had rung him or Mr. Harkness. He had objected because he had wished to see Mrs. Farr by herself. He had then seen Mr. McGirr again and had pressed for an inquiry into the whole matter. He had not obtained any satisfaction from Mr. McGirr and had therefore gone to the Premier, Mr. Storey. He had discovered from Mr. Dooley or Mr. McGirr that Mrs. Farr had been taken to Mount Saint Margaret's Hospital at Ryde. He had corresponded with her; he had written frequently to her and had received letters from her. Two letters were handed to the witness.

At this stage Dr. A. M. Burge gave evidence to the effect that he received THE MEDICAL JOURNAL OF AUSTRALIA regularly and had read the article complained of. He subscribed to the British Medical Association.

In reply to Mr. Watt witness said that he had read the summary of the Farr inquiry in THE MEDICAL JOURNAL OF AUSTRALIA and had read the daily newspapers at the time of the inquiry. He could not remember if he had noticed the headlines used in the daily papers.

(To be continued.)

Congress Notes.

AUSTRALASIAN MEDICAL CONGRESS (BRITISH MEDICAL ASSOCIATION).

In accordance with Regulation 4 (b) Dr. William Clare Leonard Malone, of Melbourne, not being a member of the British Medical Association, has been nominated by Dr. Constance Ellis and Dr. John Alfred Trinca for election as a member of Congress.

Medical Appointments.

THE undermentioned have been authorized by the Board of Health of New South Wales as Inspectors under the *Cattle Slaughtering and Diseased Animals and Meat Act, 1902*: DR. W. P. GALLAGHER (B.M.A.) at Adelong; DR. H. L. KESTIVEN (B.M.A.) at Bulahdelah.

Medical Appointments: Important Notice.

MEDICAL practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429, Strand, London, W.C.

BRANCH.	APPOINTMENTS.
NEW SOUTH WALES: Honorary Secretary, 30 - 34, Elizabeth Street, Sydney	Australian Natives' Association Ashfield and District Friendly Societies' Dispensary Balmain United Friendly Society's Dis- pensary Friendly Society Lodges at Casino Leichhardt and Petersham Dispensary Manchester Unity Oddfellows' Medical Institute, Elizabeth Street, Sydney Marrickville United Friendly Societies' Dispensary North Sydney United Friendly Societies People's Prudential Benefit Society Phoenix Mutual Provident Society
VICTORIA: Honorary Secretary, Medical Society, Hall, East Melbourne	All Institutes or Medical Dispensaries Australian Prudential Association Pro- prietary, Limited Mutual National Provident Club National Provident Association
QUEENSLAND: Hon- orary Secretary, B. M. A. Building, Adelaide Street, Brisbane	Brisbane United Friendly Society Insti- tute Stannary Hills Hospital
SOUTH AUSTRALIA: Honorary Secretary, 12, North Terrace, Adelaide	Contract Practice Appointments at Ren- mark Contract Practice Appointments in South Australia
WESTERN AUS- TRALIA: Honorary Secretary, Saint George's Terrace, Perth	All Contract Practice Appointments in Western Australia
NEW ZEALAND (WELLINGTON DIVI- SION): Honorary Secretary, Wellin- gton	Friendly Society Lodges, Wellington, New Zealand

Diary for the Month.

- Nov. 13.—New South Wales Branch, B.M.A.: Ethics Committee.
- Nov. 14.—Victorian Branch, B.M.A.: Last Date for Nomination of Council; Election of Scrutineers.
- Nov. 14.—Western Australian Branch, B.M.A.: Council.
- Nov. 14.—Melbourne Pediatric Society.
- Nov. 20.—New South Wales Branch, B.M.A.: Executive and Finance Committee.
- Nov. 20.—Illawarra Suburbs Medical Association, New South Wales.
- Nov. 21.—Victorian Branch, B.M.A.: Council; Nomination of Representative of Group on Council, London.
- Nov. 21.—Western Australian Branch, B.M.A.: Branch.
- Nov. 22.—Brisbane Hospital for Sick Children: Clinical Meeting.
- Nov. 23.—Queensland Branch, B.M.A.: Council.
- DEC. 4.—New South Wales Branch, B.M.A.: Ethics Committee.
- DEC. 5.—Victorian Branch, B.M.A.: Annual General Meeting.
- DEC. 5.—South Sydney Medical Association, New South Wales.

Editorial Notices.

MANUSCRIPTS forwarded to the office of this journal cannot under any circumstances be returned. Original articles forwarded for publication are understood to be offered to THE MEDICAL JOURNAL OF AUSTRALIA alone, unless the contrary be stated.

All communications should be addressed to "The Editor," THE MEDICAL JOURNAL OF AUSTRALIA, B.M.A. Building, 30-34, Elizabeth Street, Sydney. (Telephone: B. 4635.)

SUBSCRIPTION RATES.—Medical students and others not receiving THE MEDICAL JOURNAL OF AUSTRALIA in virtue of membership of the Branches of the British Medical Association in the Commonwealth can become subscribers to the journal by applying to the Manager or through the usual agents and book-sellers. Subscriptions can commence at the beginning of any quarter and are renewable on December 31. The rates are £2 for Australia and £2 5s. abroad per annum payable in advance.